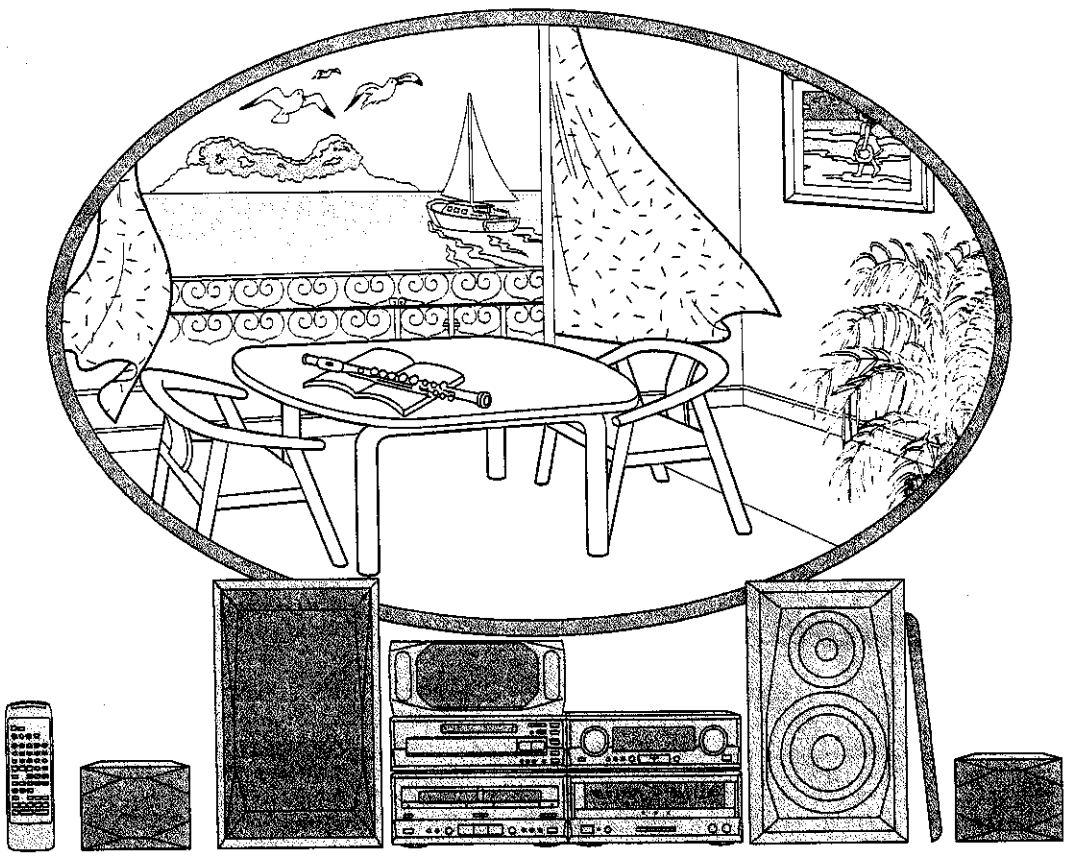
Technics®

System Component

SC-CA10

Operating Instructions



Note:
The "EB" indication shown on the outside packing case indicates United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely.

COMPACT disc DIGITAL AUDIO

EB GN

RQT3266-B

Dear customer

Thank you for purchasing this system.
For optimum performance and safety, please read these instructions carefully.

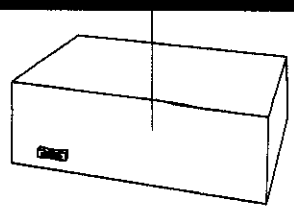
These operating instructions are applicable to the following systems.

System		SC-CA10
Tuner		ST-CA10
Amplifier		SE-CA10
CD changer		SL-CA10
Cassette deck		RS-CA10
Speakers	Front	SB-CA10
	Center	SB-PC10
	Surround	SB-PS10

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!
DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION HOLES TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.

(Back of product)

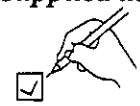


CD changer

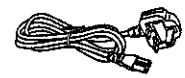
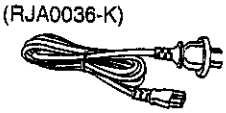
DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	(Inside of product)
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.	(Indersiden at apparatet)
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	(Tuotteen sisällä)
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.	(Apparatens insida)
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.	(Produktets innside)
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	(Im Inneren des Gerätes)

THIS MUSIC SYSTEM IS CAPABLE OF RECEIVING THE NEW AM STEREO BROADCASTS FROM THE AM BAND RADIO STATIONS. HOWEVER LIKE MANY MUSIC SYSTEM CURRENTLY AVAILABLE ON THE MARKET IT WILL REPRODUCE THIS AM STEREO SIGNAL ONLY IN AM MONO, WHICH, IN EFFECT, IS OF NO LESSER QUALITY THAN YOUR EXISTING AM MONO MUSIC SYSTEM.

Supplied accessories



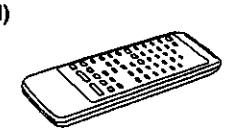
Please check and identify the supplied accessories.

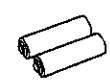
☐ **AC power supply cord** ..... **1 pc.**
For United Kingdom (RJA0049-K)

For Australia and N.Z. (RJA0036-K)


☐ **Flat cable (long) (REX0661)** ..... **1 pc.**

☐ **Flat cable (middle) (REX0660)** ..... **1 pc.**

☐ **Flat cable (short) (REX0608)** ..... **1 pc.**

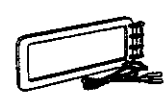
☐ **Remote control transmitter** ..... **1 pc.**
(RAK-CH745WH)


☐ **Remote control batteries** ..... **2 pcs.**
(UM-4, "AAA", R03)


☐ **FM indoor antenna** ..... **1 pc.**
For United Kingdom (RSA0007)

For Australia and N.Z. (RSA0006)

☐ **AM loop antenna set (RSA0012)**
- AM loop antenna ..... 1 pc.
- Antenna holder ..... 1 pc.
- Screw ..... 1 pc.



☐ **Speaker cords (REE0393)** ..... **2 pcs.**

☐ **Antenna plug adaptor (SJP9009)** ..... **1 pc.**
(United Kingdom only)

Use numbers indicated in parentheses when asking for replacement parts.

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Technical specifications ..... **Back cover**

Caution for AC mains lead

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ⓚ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

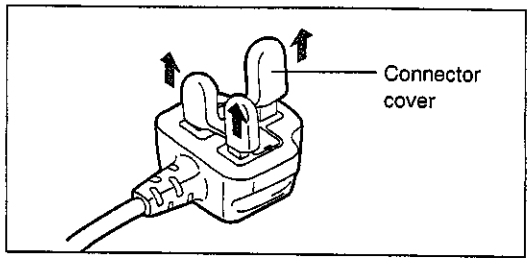
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚.

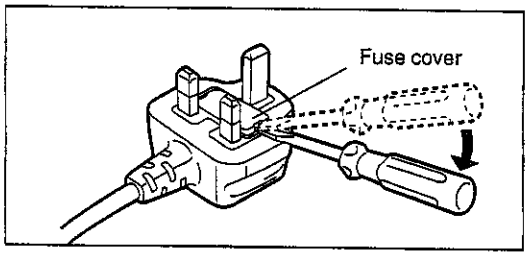
Before use

Remove the connector cover as follows.

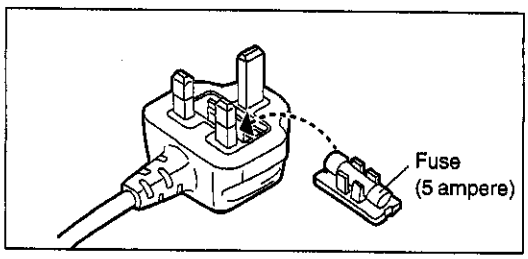


How to replace the fuse

1. Remove the fuse cover with a screwdriver.



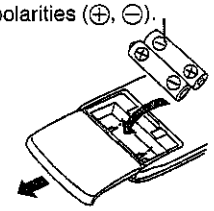
2. Replace the fuse and attach the fuse cover.



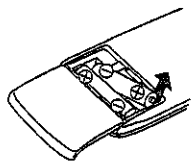
Preparing for the remote control

Battery installation

Insert the batteries in the correct polarities (⊕, ⊖).



To remove the batteries, pull out the ⊕ side.



Use of batteries

- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

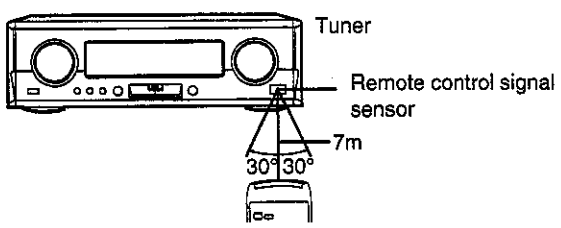
Battery life

The battery life is about one year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when the transmitter is held close to the front panel.

When you need to replace these batteries
Use two UM-4, "AAA", IEC R03 (1.5 V) or equivalent batteries.

Correct method of use



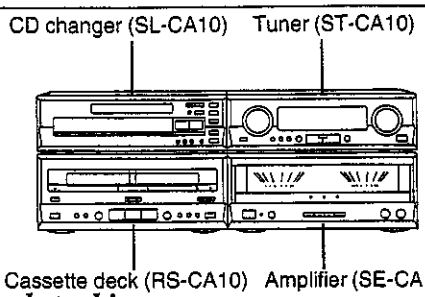
Operation notes

- Aim the remote control's transmission window toward the unit's sensor. Avoid any obstacles.
- The maximum distance is within 7 meters directly facing toward the remote control signal sensor.
- Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might affect its performance.
- The operation may not be correct if direct sunlight or other strong light source strikes the receiving sensor of this unit. If there is a problem, place the unit away from the light source.
- If this system is installed in a rack with glass doors, the glass doors' thickness or color might make it necessary to use the remote control a shorter distance from the system.
- Never place heavy items.
- Do not disassemble or reconstruct.
- Do not spill water or other liquids.

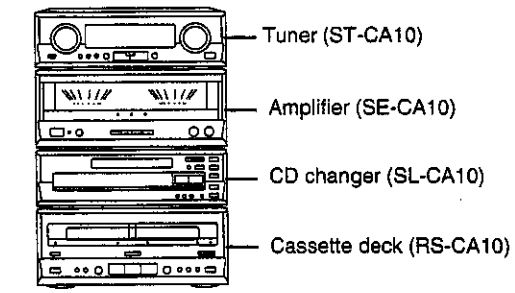
Installation

Stacking the components

Horizontal stacking



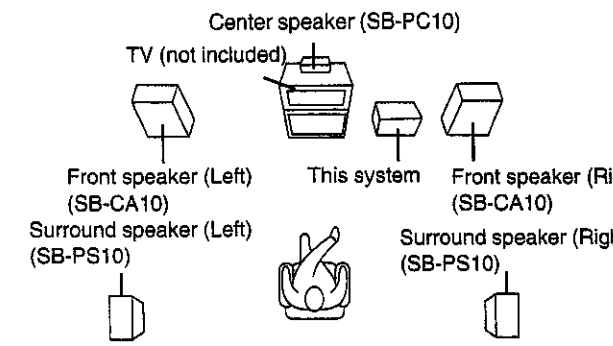
Vertical stacking



Placement of speakers

As well as enjoying normal stereo reproduction with the left and right front speakers, a center speaker and surround speakers can also be connected to the unit in order to enjoy the sound performance of DOLBY PRO LOGIC Systems.

We recommend that surround speakers be placed on the side of or slightly behind the listener, and about one meter higher than ear level.
However the position should be adjusted to your personal preference, because the effect varies to some degree depending upon the type of music and the music source.

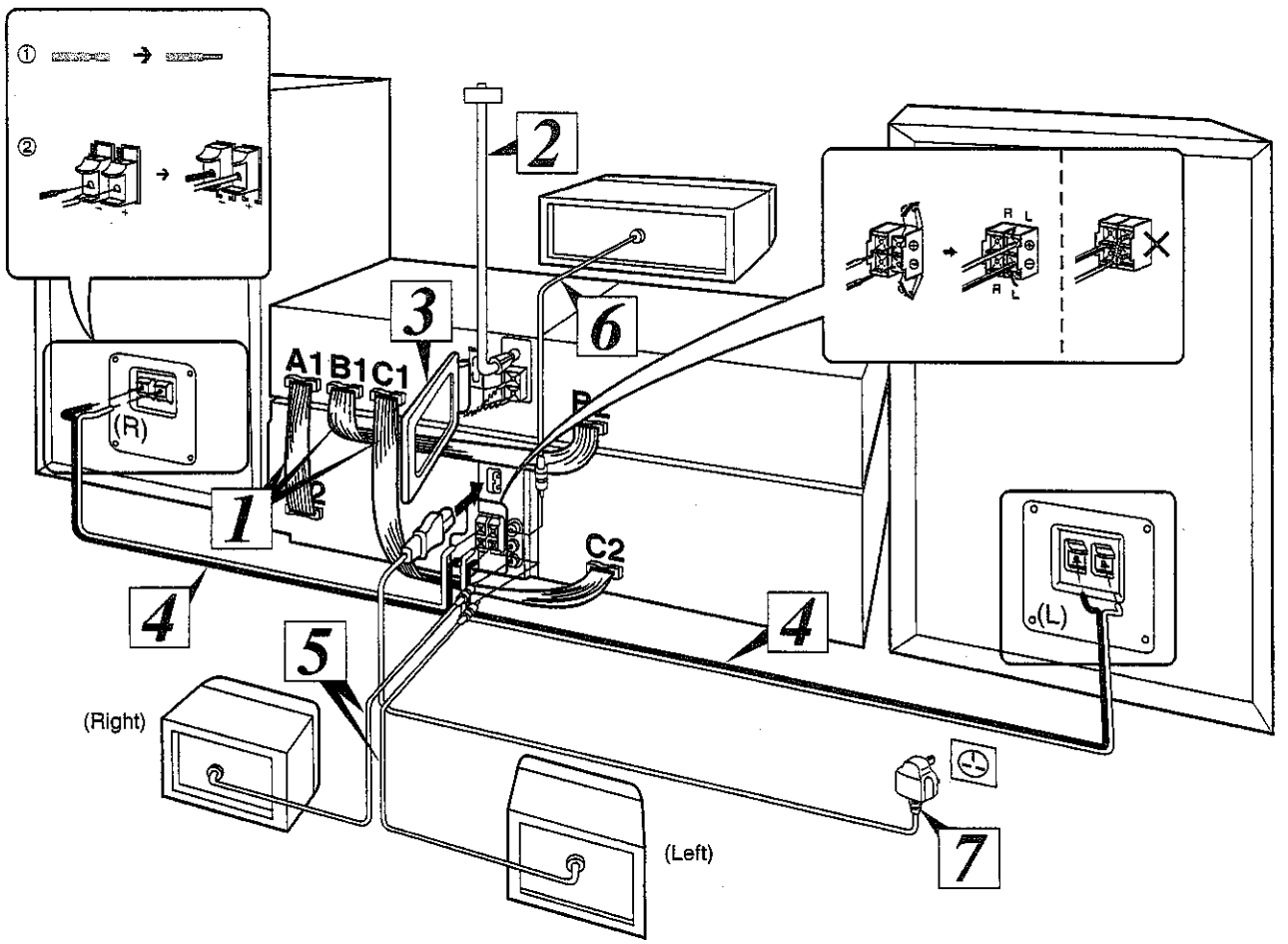


Caution
Use these speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

Connections

For Australia and N.Z.

The configuration of AC mains lead and FM antenna terminal are different.



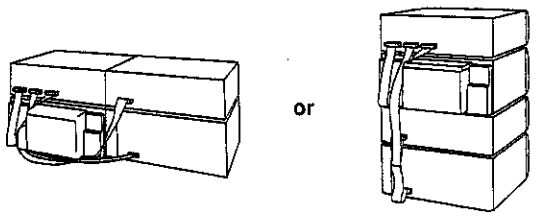
Connect the AC mains lead after you have connected all other cables.

1 Connect the flat cables.

Hold the connector with the recessed part up and press in at the center until you hear a click.

1. Connect the shorter flat cable to the terminal of the A1 and A2.
2. Connect the longer flat cable to the terminal of the B1 and B2.
3. Connect the longest flat cable to the terminal of the C1 and C2.

To disconnect the flat cable, hold the connector, and pull it out.



After connection, fold and press the cable as flat to the back of the unit as possible. [To minimize noise pickup while listening to an MW/LW (For Australia and N.Z.: AM) broadcast]

Do not try connecting or disconnecting the flat cables while the power is switched to ON.

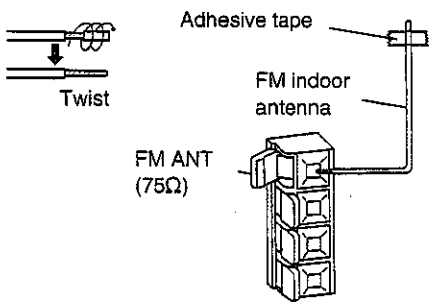
2 Connect the FM indoor antenna.

Note

When you cannot get a good reception of FM radio broadcast:

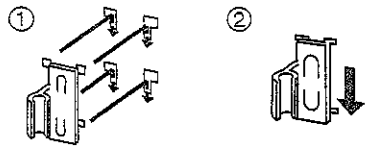
- Install the antenna on a wall at a height and in a direction which result in the best reception.
- When you cannot get a good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

(For Australia and N.Z.)



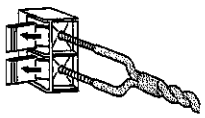
3 Connect the AM loop antenna.

1. Attach the antenna holder to the rear panel. Press the antenna holder hard enough to get it fixed firmly in place, with a click.

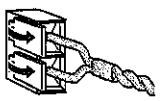


2. Strip off the outer covering.

3. Insert the wire.



4. Close the lever.



5. Attach the AM loop antenna to the antenna holder.
While listening to an MW/LW (or AM) broadcast, position the loop antenna for the best reception.
You may attach the antenna holder to a rack or other structure. Use a screw (included) to attach as shown in the figure.

Note

To minimize noise pickup, bundle the loop antenna cord using a tape or so to keep the flat cables away from the AM loop antenna cord.

4 Connect the right (R) and left (L) front speaker cables.

Notes

- To prevent damage to circuitry, never short-circuit positive (+) and negative (−) speaker wires.
- Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (−) terminals.

5 Connect the surround speaker cables.

6 Connect the center speaker cable.

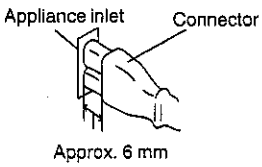
7

(United Kingdom only)
BE SURE TO READ THE CAUTION FOR AC MAINS LEAD ON PAGE 4 BEFORE PROCEEDING TO STEP 7.

Connect the AC mains lead.

Insertion of Connector (United Kingdom only)

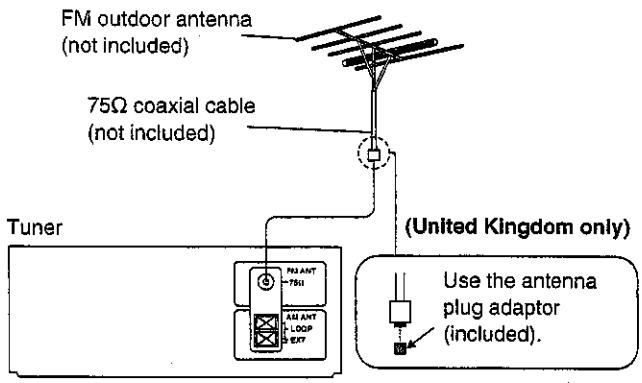
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.

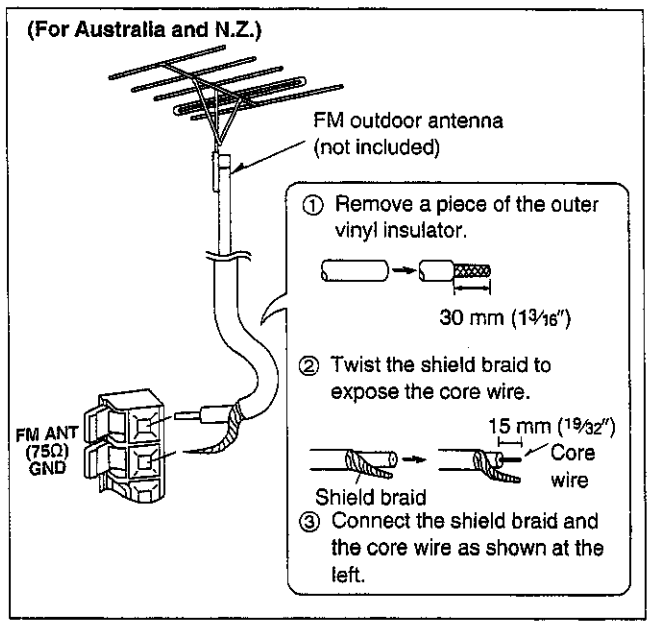


Optional antenna connections

FM outdoor antenna (not included)

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.
An outdoor antenna should be installed by a competent technician only.

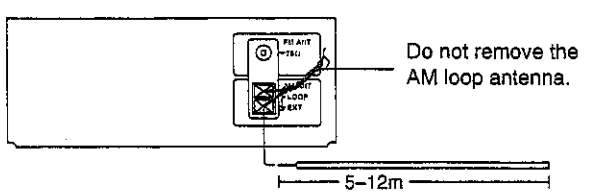



(For Australia and N.Z.)
FM outdoor antenna
(not included)
① Remove a piece of the outer vinyl insulator.
30 mm (1 3/16")
② Twist the shield braid to expose the core wire.
15 mm (19/32")
Core wire
Shield braid
③ Connect the shield braid and the core wire as shown at the left.
FM ANT (75Ω) GND

AM outdoor antenna (not included)

An outdoor antenna may be required in a mountainous region, or if this system is located inside a reinforced-concrete building, etc.

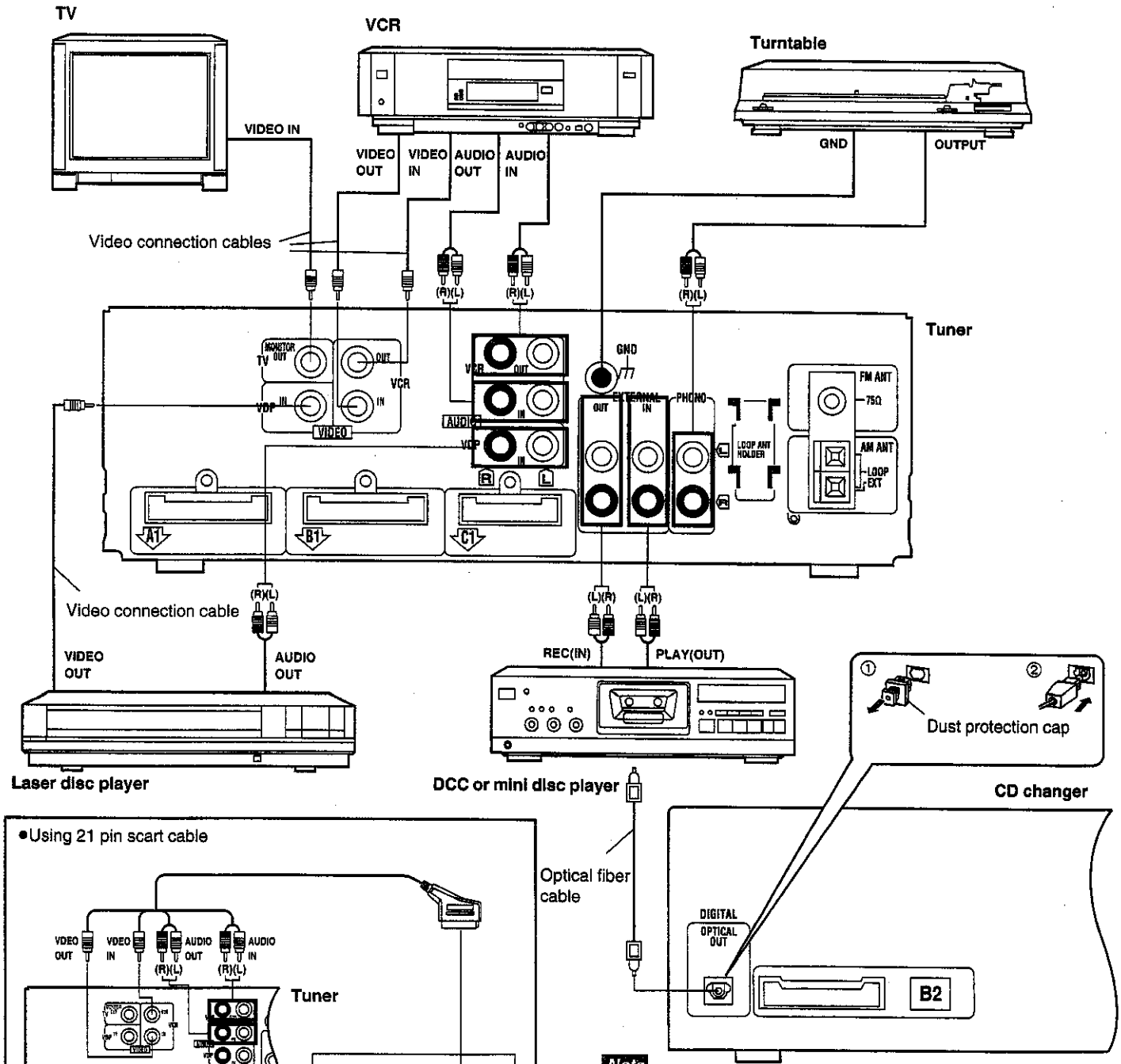
Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.



External unit connection

- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the units which are to be connected.
- All peripheral components and cables sold separately.

Stereo connection cable (not included)
White (L)
Red (R)

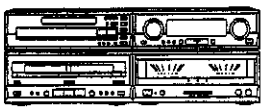


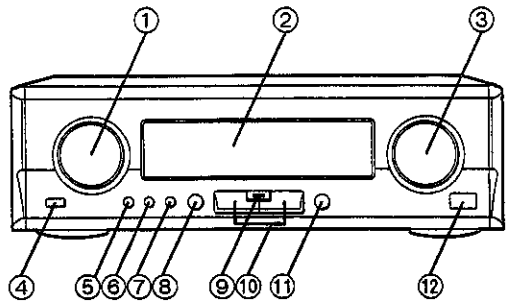
Note

- Never force the optical fiber cables to bend excessively.
- Store the dust protection cap securely, and replace it whenever cables are not connected to the terminals.

Front panel controls

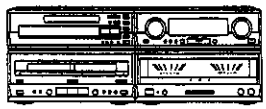
Tuner section

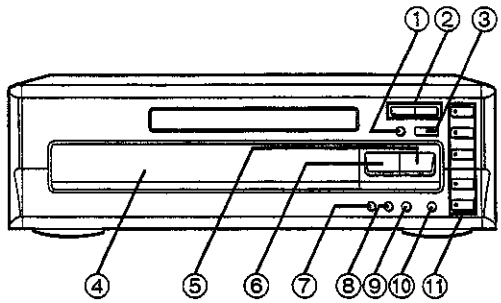




No.	Name	Ref. page
①	JOG control (JOG)	11
②	Display	
③	Volume control (VOLUME)	14
④	Set button (SET)	11
⑤	Clock/timer button (CLOCK/TIMER)	11
⑥	Record timer button (◴ REC)	35
⑦	Play timer button (◴ PLAY)	33
⑧	Tuning mode select button (TUNING MODE)	12
⑨	Tuner indicator (TUNER)	
⑩	(For United Kingdom) Band select button (FM, LW/MW) (For Australia and N.Z.) Band select button (FM, AM)	12 12
⑪	Source input select button (INPUT SELECTOR)	37
⑫	Remote control signal sensor (SENSOR)	5

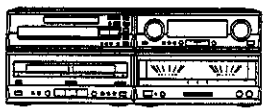
CD changer section

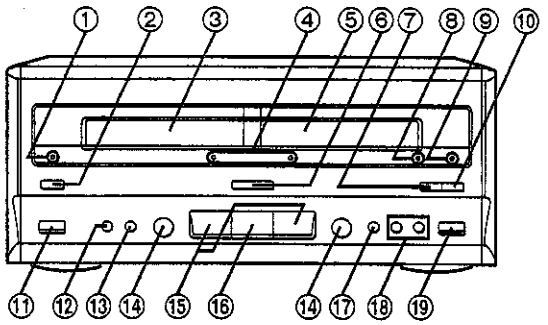




No.	Name	Ref. page
①	Pause button (❚❚)	16
②	Skip/search buttons (SKIP/SEARCH)	16
③	Disc tray open/close button (▲ OPEN/CLOSE)	15
④	Disc tray	15
⑤	Play button and indicator (▷)	16
⑥	Stop button (□)	16
⑦	Random play button (RANDOM)	17
⑧	Repeat button (REPEAT)	16
⑨	AI edit button (AI EDIT)	29
⑩	Disc check button (DISC CHECK)	15
⑪	Disc select buttons and indicators (DISC)	15

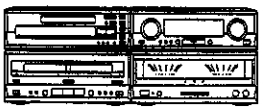
Cassette deck section

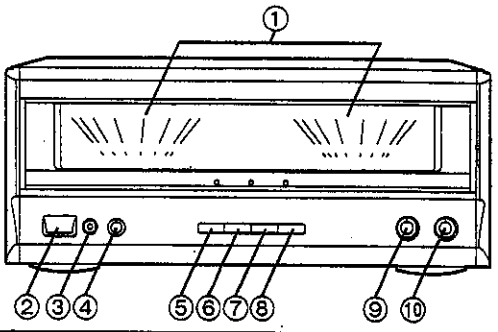




No.	*Name*	*Ref. page*
①	**Deck 1 indicator (DECK 1)**	*20*
②	**Deck 1/deck 2 select button (DECK 1/2)**	*20*
③	**Deck 1 cassette holder**	*19*
④	**Fast forward/rewind indicators (HIGH SPEED FF/REW)**	*20*
⑤	**Deck 2 cassette holder**	*26*
⑥	**TPS skip button (TPS SKIP)**	*20*
⑦	**Counter reset button (RESET)**	*19*
⑧	**Record pause indicator (REC PAUSE)**	*26*
⑨	**Deck 2 indicator (DECK 2)**	*20*
⑩	**Counter display button (DISPLAY)**	*26*
⑪	**Deck 1 cassette holder open/close button (▲ OPEN/CLOSE)**	*19*
⑫	**Dolby noise reduction button (DOLBY NR)**	*25*
⑬	**Reverse mode select button (REV MODE)**	*19*
⑭	**Fast forward/rewind/tape program sensor buttons (◀◀ [TPS], ▶▶ [TPS])**	*20*
⑮	**Playback buttons and indicators (◁, ▷)**	*19*
⑯	**Stop button (□)**	*19*
⑰	**Record pause button (● REC PAUSE)**	*26*
⑱	**Tape edit buttons (TAPE EDIT, NOR, HIGH)**	*31*
⑲	**Deck 2 cassette holder open/close button (▲ OPEN/CLOSE)**	*26*

Amplifier section

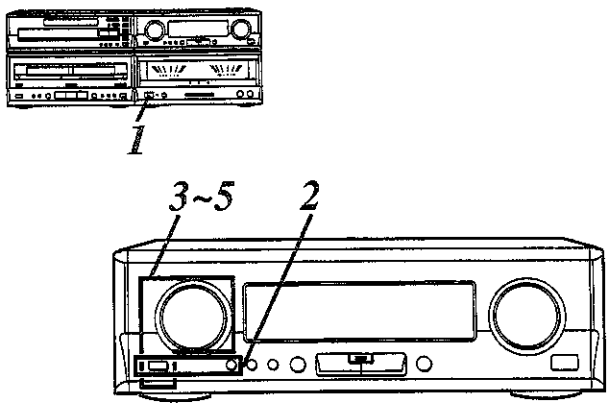




No.	*Name*	*Ref. page*
①	**Output power meter** Indicates the output (watts) of this unit.	
②	**Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)** Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.	*11*
③	**Standby indicator (STANDBY)** When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.	*11*
④	**Headphones jack (PHONES)**	*37*
⑤	**DOLBY PRO LOGIC mode select button (MODE)**	*21*
⑥	**Test signal button (TEST)**	*22*
⑦	**Delay time adjust button (DELAY TIME)**	*23*
⑧	**Center mode select button (CENTER MODE)**	*21*
⑨	**Bass control (BASS)**	*24*
⑩	**Treble control (TREBLE)**	*24*

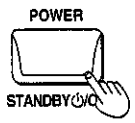
Setting the time

This is a 24-hours display clock.



These instructions explain how to set the timer for 16:25 (4:25 p.m.) on Wednesday.

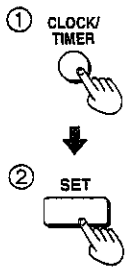
1



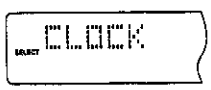
Switch on the power.

The very first time you turn ON the power or whenever you turn it ON after having unplugged and plugged the stereo in again, you will hear the sound of the tray mechanism. There is nothing wrong with your CD changer. This happens because of initial settings.

2

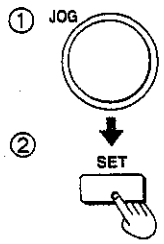


① Press CLOCK/TIMER to show "CLOCK".

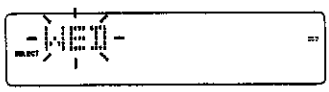


Within 10 seconds:
② Press SET.

3

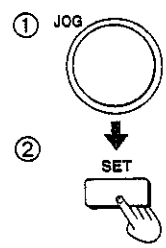


① Turn JOG to select the day.

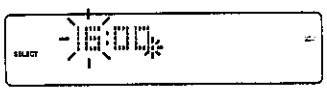


② Press SET.

4

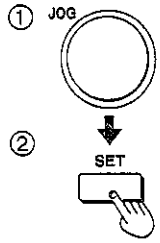


① Turn JOG to select the hour.

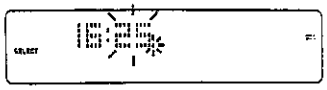


② Press SET.

5



① Turn JOG to select the minutes.



② Press SET to finish setting the time.

The display will return to the previous display after about 3 seconds.

When "SUN 0:00" flashes:

It flashes when you connect the AC power supply cord for the first time or if there has been a power failure.
If this happens, reset the time.

If the minutes setting has gone wrong:

1. Press CLOCK/TIMER.
2. Press SET 3 times.
3. Turn JOG to set the minute, and then press SET.

To display the clock again:

Press CLOCK/TIMER.
The clock display will appear for about 10 seconds.

Memory presetting

By presetting the desired broadcast stations into the memory channels of this unit, broadcast stations can be selected simply by turning JOG on the tuner or by the remote control.

Before presetting

How many broadcast stations can be preset?

(For United Kingdom)
A total of 39 FM, MW and LW stations can be preset.

(For Australia and N.Z.)
A total of 39 FM and AM stations can be preset.

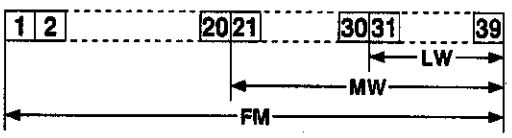
How is presetting done?

The two following methods are available.

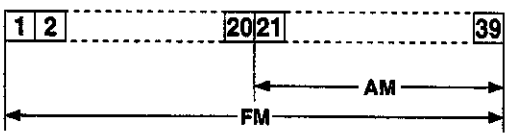
- **Automatic memory presetting**
  Automatic memory presetting allows this unit to automatically search for broadcast stations and then preset them into memory.
  With this method, the channels that can be preset into the memory are set as follows for different bands.

Channel

(For United Kingdom)



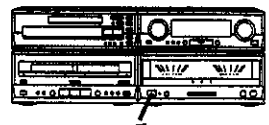
(For Australia and N.Z.)

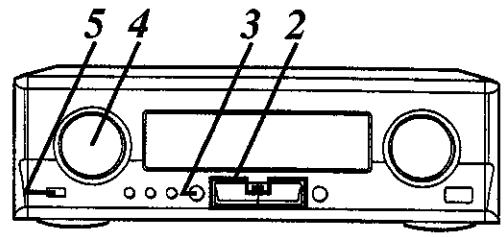


For example, after presetting the FM band, if the MW (or AM) band is preset, the previous presettings in the sections in the above illustration which overlap will be erased and the subsequent settings will be preset.

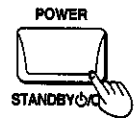
- **Manual memory presetting**
  The desired broadcast stations can be preset into the desired channels by the user.

Automatic memory presetting

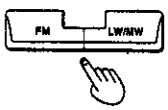




This example in the figure shows how to preset FM stations.

1 

Switch on the power.

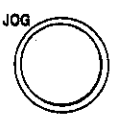
2 

(For United Kingdom)
Press FM or LW/MW to select the desired band.
Each time you press LW/MW, "MW" and "LW" will appear alternately.

(For Australia and N.Z.)
Press FM or AM to select the desired band.

3

Press TUNING MODE to select "MANUAL".
Each time you press this button, the indicator will change as follows.
AUTO→MANUAL→PRESET

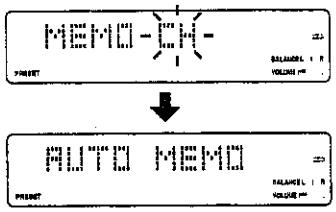
4 

Turn JOG until the display shows the frequency from which you want to begin automatic memory presetting.

5 SET

Press and hold SET and the automatic memory presetting will begin.

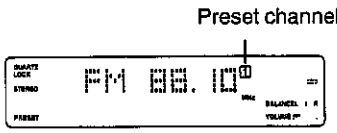
Keep SET depressed until "AUTO MEMORY" will be displayed, then release the button.



After completing the automatic memory presetting, the display shows "SET OK" and the last preset channel and frequency.

To confirm the preset stations:

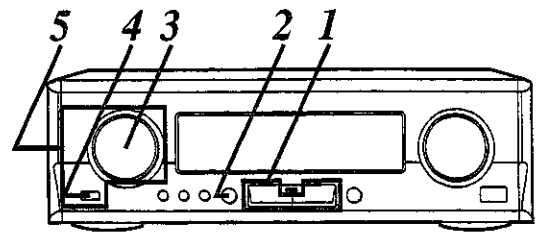
1. Press TUNING MODE to select "PRESET".
2. Turn JOG.



When "ERROR" appears:

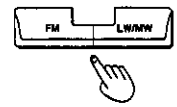
Automatic memory presetting does not work when radio waves from the broadcasting station are too strong or too weak.
In such case, carry out presetting manually.

Manual memory presetting



This example in the figure shows how to memorize FM 88.10 MHz into preset channel 1.

1



(For United Kingdom)
Press FM or LW/MW to select the desired band.

Each time you press LW/MW, "MW" and "LW" will appear alternately.

(For Australia and N.Z.)
Press FM or AM to select the desired band.

2 TUNING MODE

Press TUNING MODE to select "AUTO" or "MANUAL".

Each time you press this button, the indicator will change as follows.
AUTO→MANUAL→PRESET

In "AUTO" mode, as JOG is being turned, the next station, higher or lower in broadcast frequency, will be automatically tuned in.
In "MANUAL" mode, the frequency will change, using the smallest step available, only as JOG is being turned. This will allow you to tune in all of the broadcast frequencies available in that band.

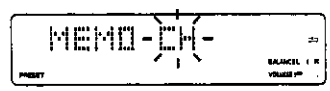
3 JOG

Turn JOG to tune in the desired broadcast station.

4 SET

Press SET momentarily.

"CH" flashes.



5 ① JOG ② SET

① Turn JOG to select the desired preset channel.
② Press SET momentarily.

"CH" will light up solidly on the display when the station has been preset.

To continue presetting:

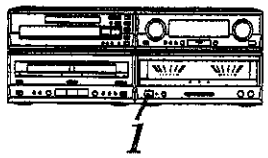
Repeat steps 1 through 5.

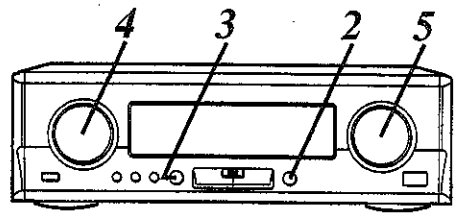
To preset FM stations in monaural position:

1. Select the desired frequency.
2. Press AUTO/MONO on the remote control to select "MONO".
3. Follow steps 4–5 above.

Listening to radio broadcasts

Preset tuning





Preparation
Before tuning, memorize a radio station (see pages 12–13).

1 POWER STANDBY/ON

Switch on the power.

2 INPUT SELECTOR

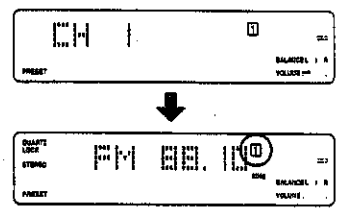
Press INPUT SELECTOR to select "TUNER".

3 TUNING MODE

Press TUNING MODE to select "PRESET".
Each time you press this button, the indicator will change as follows.
AUTO→MANUAL→PRESET

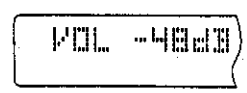
4 JOG

Turn JOG to select the desired channel.

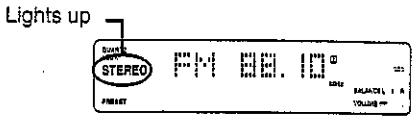


5 VOLUME

Adjust the volume level as you like.



When the FM stereo broadcast is received:
This unit will automatically switch to FM stereo reception and the "STEREO" indicator will light up.



If noise is excessive in the FM stereo mode:
by remote control only

Press AUTO/MONO on the remote control to select "MONO".
The sound will then be heard in monaural. If the broadcast signal is weak, or if there is a large amount of interference, you will get a clearer sound using MONO function.

For your reference:
Even if the power is switched to the standby or the power cord is disconnected from the household AC outlet, the memory will retain its contents for approximately 2 weeks.

For tuning by remote control
Specify the channel you want with the numeric keys (see page 38).

To designate channels 1–9
Press the appropriate (1–9) preset-tuning button.

To designate channels 10–39
(Example: Channel 12)
≥10 ——(within 10 sec.)——→ 1 ——(within 10 sec.)——→ 2

Sequential tuning

If the desired broadcast stations are not preset, use JOG control to search for them.

This example in the figure shows how to tune in FM stations.

1 **(For United Kingdom)**
Press FM or LW/MW to select the desired band.
Each time you press LW/MW, "MW" and "LW" will appear alternately.
(For Australia and N.Z.)
Press FM or AM to select the desired band.

2 Press TUNING MODE to select "AUTO" or "MANUAL".
Each time you press this button, the indicator will change as follows:
AUTO→MANUAL→PRESET
In "AUTO" mode, as JOG is being turned, the next station, higher or lower in broadcast frequency, will be automatically tuned in.
In "MANUAL" mode, the frequency will change, using the smallest step available, only as JOG is being turned. This will allow you to tune in all of the broadcast frequencies available in that band.

3 Turn JOG to tune in the desired broadcast station.

Note

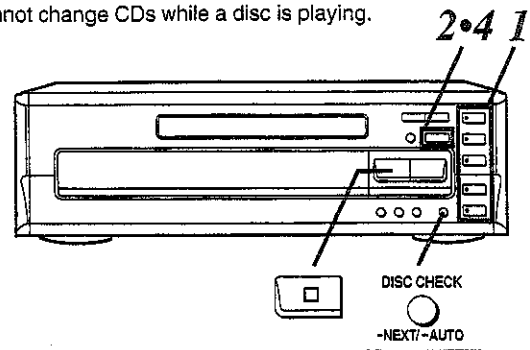
Nearby radio waves may interfere with reception. Depending on the amount of interference, in auto tuning, the radio might not be able to pick-up the station. In this case, the frequency display will stop moving.

4 Adjust the volume level as you like.

Listening to compact discs

Loading and checking CDs

Always stop the changer before loading or changing CDs. You cannot change CDs while a disc is playing.



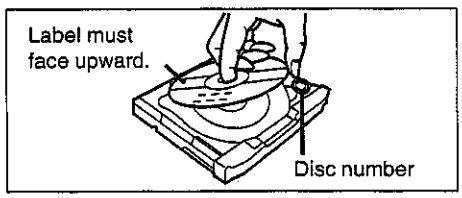
How to load CDs

1 **Press DISC 1–5, whichever you want to open.**

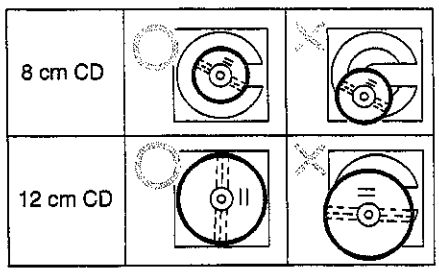
2 **Press ▲ OPEN/CLOSE.**

3 **Set the CD in the tray.**

•How to hold CDs



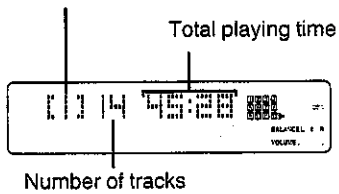
•Load CDs as shown below.



4 **Press ▲ OPEN/CLOSE.**

The open tray will close.

Disc number



5 **To load other CDs, repeat steps 1 through 4.**

For your reference:

If the tray you want to open is already shown on the display, you obviously do not need to perform step 1.

How to check which trays have discs

DISC CHECK is a convenient way to know what discs you have in your changer and where.

Press DISC CHECK (-NEXT).

Not the disc number shown on the display, but the next tray after that will open. For example, when disc 4 is displayed, tray 5 will open.

- Every time you press the button, the next tray opens.
- You can change the CD while the tray is open.
- To close the tray, press ▲ OPEN/CLOSE.

Hold down DISC CHECK (–AUTO).

The trays will open (and close) automatically one after another. The first one to open will be the next tray after the disc number shown on the display. This way, you can check all trays in a row.

- To stop the auto check in course, press □.

Note

Do not attempt to change CDs while trays are opening and closing in the auto check.

Disc indicators

When you open or close a tray with the ▲ OPEN/CLOSE button, the changer automatically detects whether there is a CD in the tray or not. The indicator will act as follows.

● (red)	There's a CD in the tray.
Out	There isn't a CD in the tray.

While the CD is playing, its indicator is green.

Note

In the following cases, CD detection is OFF. The indicators will be red whether there is a disc in the tray or not.

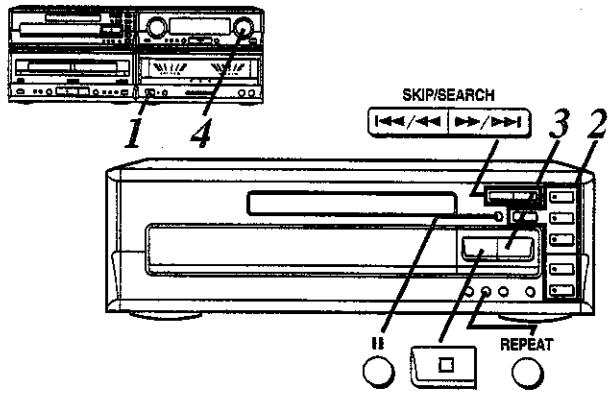
- When the tray is closed with DISC CHECK
- When the tray is closed with DISC 1–5
- When the tray is closed by selecting a mode other than CD

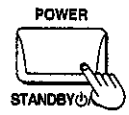
For your reference:

While the CD changer is changing discs, the disc indicators act as follows.

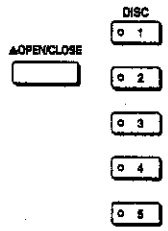
- All the indicators the changer skips through will flash.
- The indicator of the selected disc (or last disc in auto DISC CHECK) will light up.

Sequential play

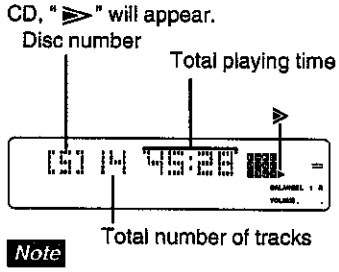


1 

Switch on the power.

2 

Insert CDs in the trays.
(For details, see page 15.)
When there are 13 or more tracks on the CD, "▶" will appear.

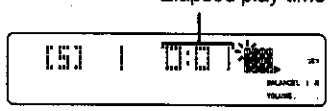


Note

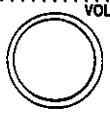
The total playing time displayed when a disc is loaded includes intervals between tracks. This is why sometimes the displayed time is longer than that listed on the CD.

3

Press ▷.



The changer will automatically play all tracks on all discs. It will start from the first track on the disc shown on the display, and will continue until playing the last track of the final disc (see below).

4 

Adjust the volume level as you like.

To stop the disc play:
Press □.

To temporarily stop the disc play:
Press **II** button. ▷ indicator flashes up green.
To play again, press ▷.

What is meant by "final disc"?:
For example, if play starts from disc 4, disc 3 will be the "final disc".
Order of progression:
Disc 4→5→1→2→3

When "NO DISC" display appears:
It indicates that the disc tray now shown on the display is empty.

About ▷ indicator:
While halted: Lights up orange.
While playing: Lights up green.

For your reference:
If you press ▷ instead of ▲ OPEN/CLOSE after inserting a CD, the tray will close and play will start directly from the track 1.

Skip function

Press either I◀◀/◀◀ or ▶▶/▶▶I.
▶▶/▶▶I: To skip forward
You can skip as many tracks as the number of times you press the button.
I◀◀/◀◀: To skip backward
You can skip to the beginning of the track being played. If you press the button again quickly, you can skip to the beginning of the previous track.

For your reference:
- In random play mode (See page 17), you cannot skip to the previous track.
- In program play mode (See page 18), you can skip only the programmed tracks.

Search function

Available only from the main unit

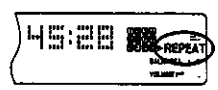
While in play mode, press and hold either I◀◀/◀◀ or ▶▶/▶▶I.
Release the button when you have reached the desired point.
▶▶/▶▶I: To search forward
I◀◀/◀◀: To search backward

For your reference:
During random play and program play, search will take place within the track being played. (See pages 17 and 18.)

Repeat function

This function repeats the play of all tracks.

Press REPEAT before or during play.
"REPEAT" will light.



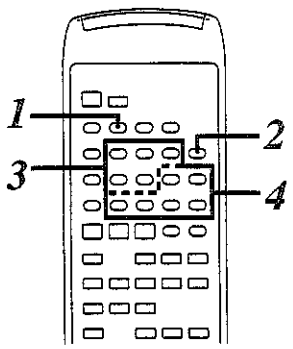
To cancel repeat play:
Press REPEAT once again.
"REPEAT" will go out.

For your reference:
In program play mode (See page 18), the CD changer will repeat only the programmed tracks. You can enjoy the same track over and over by programming only one track.

Direct access play

by remote control only

Direct access allows you to start sequential play from a specific track to the last track on the final disc.



1 CD **Press CD.**

2 DISC **Press DISC.**

3 1 2 3 4 5 **(within 10 seconds or so) Press DISC 1–5, whichever disc you want.**

If wanting to listen to the disc from the first track, there is no need to perform step 4.

4 1 2 3 4 5 6 ≥10 7 8 9 0 **Press the numeric button to select the desired track number.**

Play will start with the track you select.

To select a two-digit track:

Press ≥10 and then the two numbers you want within 10 seconds or so.

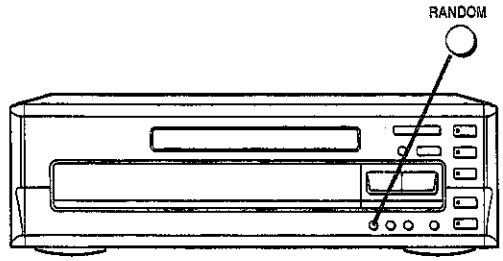
For example:

Track no. 20: ≥10→2→0

Track no. 35: ≥10→3→5

Random play

In random play, the changer randomly selects the tracks. It will play each track once until all tracks on all the loaded discs have been played, and will then stop automatically.



RANDOM **Press RANDOM.**

"RANDOM" will light, and then random play will start.

Play will stop automatically when all tracks on all of the discs finish playing randomly.

To cancel random play:

Press RANDOM once again.

"RANDOM" will go out. The CD changer resumes the sequential play mode.

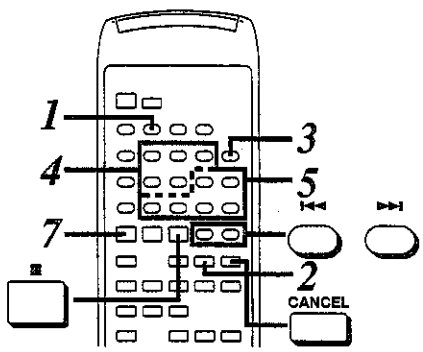
For your reference:

In the program play mode (See page 18), the programmed tracks will be played randomly.

Program play

by remote control only

This function allows you to program up to 24 tracks.



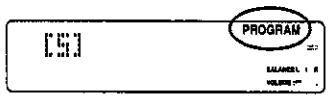
This example shows how to program track 8 from disc 2 and track 3 from disc 5.

1 CD

Press CD.

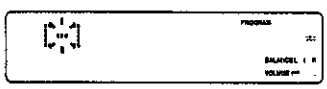
2 PROGRAM

Press PROGRAM.
"PROGRAM" will light.



3 DISC

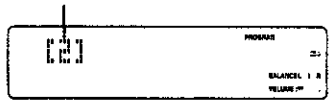
Press DISC.



4 1 2 3 4 5

(within 10 seconds or so) Press DISC 1–5, whichever disc you want.

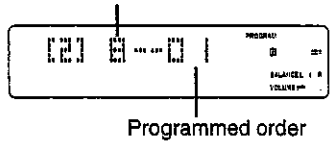
Disc number



5 1 2 3 4 5 6 ≥10 7 8 9 0

Press the numeric button to select the track you want to play in the desired sequence.

Programmed track number



Programmed order

To select a two-digit track:

Press ≥10 and then the two numbers you want.

For example:
Track no. 20: ≥10→2→0
Track no. 35: ≥10→3→5

6

Repeat steps 3 through 5 until you have programmed all the tracks you want.

7 ▶

Press ▶.
Play will start in the programmed sequence.
When all the programmed tracks have been played, the changer will stop automatically.

When "FULL" appears:

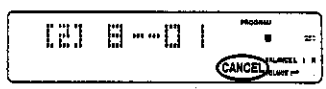
The number of programmed tracks is limited to 24. No further tracks can be programmed.

When "––:––" appears:

The total playing time of the programmed tracks has exceeded 99 minutes 59 seconds, or you tried programming track number 25 or more, or you tried programming a disc not in playing position. In any case, you can still program and play discs.

To check programmed tracks:

1. Press CANCEL.
   "CANCEL" lights.



2. Press ⏮ or ⏭.
   The programmed track number and programmed order will be displayed each time one of the buttons is pressed.
3. Press ⏮ or ⏭. After "––:––" or the time appears on the display, press CANCEL.
   "CANCEL" goes out.

To clear a programmed track one by one:

(Using the numeric button)

1. Press CANCEL.
   "CANCEL" lights.
2. Press DISC.
3. (Within 10 seconds)
   Press the disc button (1–5) to select the desired disc number.
4. Press the numeric button of the track you want to cancel.
   The track you specified will be canceled.
5. Press CANCEL.
   "CANCEL" goes out.

(Using ⏮ or ⏭)

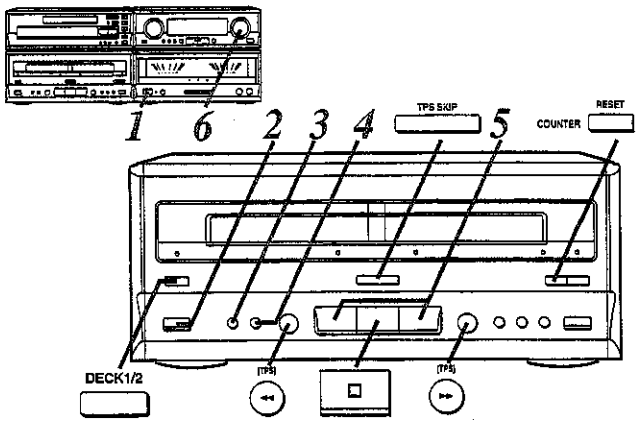
1. Press CANCEL.
   "CANCEL" lights.
2. Press ⏮ or ⏭ repeatedly until the display shows the track number you want to cancel.
3. (Within 10 seconds)
   Press CANCEL.
   The track you specified will be canceled.
4. Repeat steps 2 and 3 to finish cancelling track.
5. Press CANCEL.
   "CANCEL" goes out.

To clear all tracks:

Press PROGRAM.
"CLEAR" will appear on the display for approximately 1 second. Even while play is stopped, pressing ■ will clear all tracks.

Listening to tapes

Playback

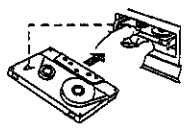


- Both deck 1 and 2 can be used to playback tapes.
- This page shows an example using deck 1.

1 POWER, STANDBY⏻/I

Switch on the power.

2 ▲OPEN/CLOSE



Press ▲ OPEN/CLOSE on deck 1, and then insert the tape.

Load a tape with the exposed side facing the cassette holder's insertion part.
Insert the cassette tape until it touches the back of the compartment.
Press ▲ OPEN/CLOSE once again to close the cassette holder.

3 DOLBY NR

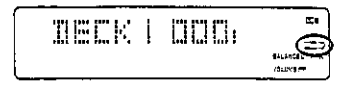
Press DOLBY NR to select the appropriate noise-reduction system.

Each time you press this button, the indicator will change as follows:
□□ B→□□ C→off

Select the same type as that used for recording. When playing back a tape which was not recorded using a Dolby NR system, press DOLBY NR so that the indicator goes off.

4 REV MODE

Press REV MODE to select the reverse mode.



Each time you press REV MODE, one of the indicators will appears.
- ⇄: The deck plays one side only, and then stops automatically.
- ⇄▷: The deck plays both sides, and then stops automatically.
- ↻⇄▷: The deck plays both sides 8 times, and then stops automatically.
  When you load tapes into both decks; sequential playback will be made. (See page 20.)

5 ◁ ▷

Press ◁ or ▷.

▷: The forward side will play.
◁: The reverse side will play.

6 VOLUME

Adjust the volume level as you like.

To stop tape playback:
Press □.

To change the deck to be used:
Press DECK 1/2 to select the deck you want to play.
Deck 1 or deck 2 indicator lights up.

To reset the tape counter:
It is convenient to reset the counter when you want to memorize a certain point (For example, when you want to rewind the tape to the midway of the tune, etc.).
The tape counter indicates the amount of tape travel as a numerical value based on the number of revolutions of the tape hub.

1 Press DECK1/2 to select the deck to be used.
2 Press RESET.

- When the tuner or CD mode display shows, the tape counter display will appear for about 1 second.

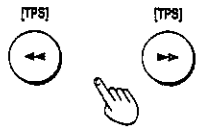
For your reference:
When the tape is travelling in the reverse direction, the value displayed on the tape counter will count down.
After "000_" is reached, the display will switch to "999_" and then continue counting down.

About the ◁ and ▷ indicators:
While halted, fast forwarding, or rewinding:
Lights up orange.
While playing or recording:
Lights up green.
While finding the beginning of a program or recording is on standby:
Flashes green.

Type of tape which can be played correctly:
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	○
HIGH POSITION/TYPE II	○
METAL POSITION/TYPE IV	○

To fast forward or rewind the tape



Press [TPS] ◀◀ or [TPS] ▶▶ while the tape is in the stop mode.

If the forward side (▷) indicator lights:
[TPS] ▶▶: The tape will be fast forwarded.
[TPS] ◀◀: The tape will be rewound.
If the reverse side (◁) of the tape is playing:
The reverse operation will take place.

High-speed rewind/fast-forward:

The deck rewind/fast-forward the tape with high-speed when:
- The deck rewinds from around the end of the tape
- The deck fast-forwards from around the beginning of the tape

While the high-speed rewind/fast forward is activated, "HIGH SPEED FF/REW" indicator flashes.
When you press [TPS] ◀◀ or [TPS] ▶▶ while the high-speed rewind/fast-forward is activated, the deck resumes the normal-speed rewind/fast-forward.

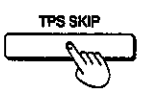
For your reference:

- Each decks' play direction is stored in the system's memory.
- The deck may sometimes make the high-speed rewind/fast-forward from around the midway of the tape.
- You can fast forward or rewind the tape while you are playing or recording a tape in another deck. Press DECK 1/2 to switch to the non playing deck, and then press [TPS] ◀◀ or [TPS] ▶▶. After above operation, be sure to press DECK 1/2 to select the deck in which you are playing a tape.

To find the beginning of a program (TPS: tape program sensor)

The number of programs corresponding to the number of times TPS SKIP was pressed will be skipped, and the desired program is located (up to 9 programs before or after the program now heard).

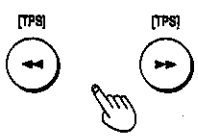
1



Press TPS SKIP until selecting the numbers of tracks you want to skip.

Each time you press this button, the display will change as follows:
TPS 1→2→3....8→9→DECK (1 or 2)

2



Press [TPS] ◀◀ or [TPS] ▶▶.

If the forward side (▷) is playing:
[TPS] ▶▶: Skips forward by the number of tracks corresponding to the number you select in step 1. ("+" lights.)
[TPS] ◀◀: Skips backward by the number of tracks corresponding to the number you select in step 1. ("−" lights.)
When you select "TPS 1", the deck will skip back to the beginning of the track you are currently listening to and will start playing it again.
If the reverse side (◁) of the tape is playing:
The reverse operation will take place.

Note

- To change the setting (the number of the programs to be skipped, the tape travel direction, etc.) while TPS skip is activated, press □ to stop the deck first.
- If the number of TPS skips specified is larger than the number of songs recorded on the tape, the unit may stop at the end of the tape or otherwise fail to operate correctly.

For your reference:

To skip to the next track or back to the beginning of the track you are currently listening to, perform only above step 2.

Note

TPS is the function that searches for the silent passage in a tape program. So, it may sometimes fail to operate correctly in the following situations:
- When there is no blank space between tape programs (for example, a tape recorded from a microphone)
- When the interval between programs is less than 4 seconds
- When there is a particular low-level passage in a program (for example, classical music)
- When the program is less than 10 seconds, or when it is less than 10 seconds from the listening point to the beginning of the next tune
- When a tape recorded with fade-ins or fade-outs

Series playback among 2 tapes

1 Press ▲ OPEN/CLOSE on decks 1 and 2, and then insert the tapes.
Load with the side upward that you wish to listen to first in deck 1.
Press ▲ OPEN/CLOSE once again to close each deck's cassette holder.
2 Press DOLBY NR to select the appropriate noise-reduction system.
3 Press REV MODE to select "⇄" mode.
4 Press DECK 1/2 to select deck 1.
The deck 1 indicator will light up.
5 Press ▷.

① Forward side of tape in deck 1 ←
↓
② Reverse side of tape in deck 1
↓
③ Forward side of tape in deck 2
↓
④ Reverse side of tape in deck 2 ——┘

- After repeating above operation 8 times, the tape will automatically stop.
- You can also start playback from a position other than the forward side in deck 1 (①). In this case, too, the deck counts 1 time after finishes playback of the reverse side of tape in deck 2 (④).

To stop tape playback:

Press □.

For your reference:

You cannot select Dolby NR for deck 1 and 2 respectively. We recommend you use tapes of the same type (Dolby noise reduction).

About priority of the deck:

When you load tapes in both decks, deck 1 or 2 indicator will light to show which deck you loaded last.
If tapes are loaded in both decks when you switch on the power, the deck 1 indicator will light.

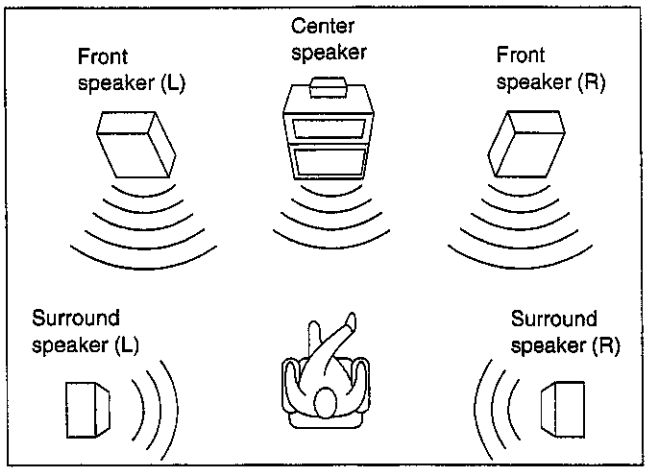
Enjoying sound with DOLBY PRO LOGIC

By combining front, center and surround speakers, you can enjoy the SURROUND mode which conveys a feeling of presence or the 3 STEREO mode which conveys a feeling of orientation.

SURROUND

By reproducing the feeling of depth and movement of sound, video software or compact discs recorded with Dolby Surround provide the listener with a feeling of presence like that of a movie theater.

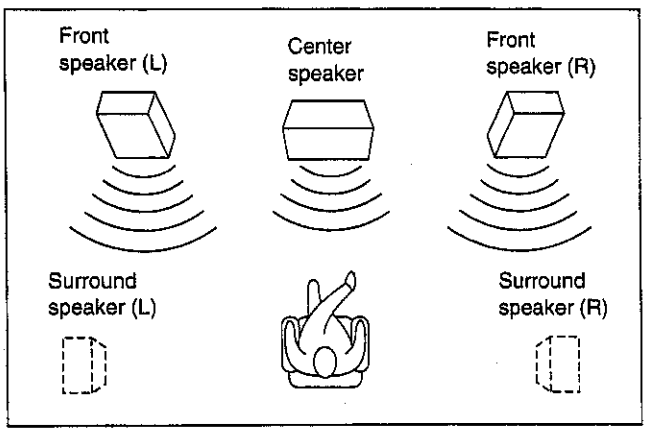
To enjoy SURROUND, be sure to connect the surround speakers.



3 STEREO

You can enjoy audio/video sources with clear sound, more presence and a good feeling of orientation. 3 STEREO can be used with sources not recorded in DOLBY SURROUND.

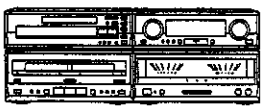
To enjoy 3 STEREO, be sure to connect the center speaker.

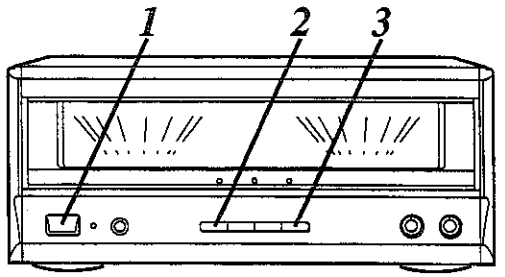


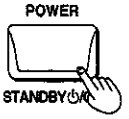
Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY, the double-D symbol ◻◻ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

Setting the center mode

For Dolby Pro Logic systems, center mode setting is necessary to play back bass sounds effectively.
Set the center mode in accordance with the size of your center speaker.





1 

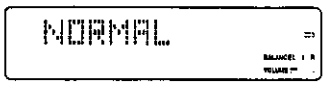
Switch on the power.

2

Press MODE to select "SURROUND" or "3 STEREO".
Each time you press the button, the display will change as follows:
SURROUND→3 STEREO→OFF

3

Press CENTER MODE to select "NORMAL" mode.



Each time you press the button, the display will change as follows:
NORMAL→WIDE→PHANTOM

Note

"PHANTOM" will not be displayed when you select "3 STEREO" in step 2.

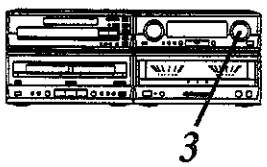
NORMAL:
When the center speaker is smaller than the front speakers
WIDE:
When the center speaker is the same or larger size as the front speakers
PHANTOM: *SURROUND only*
When no center speaker is connected.

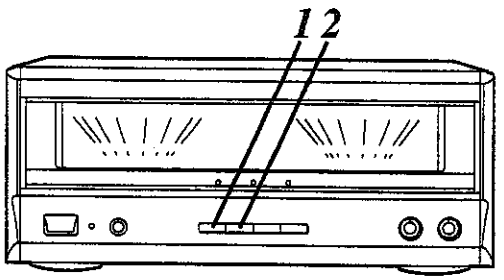
Note

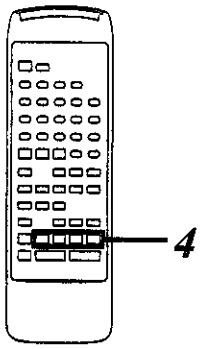
In the PHANTOM mode, the sound which would have been sent to the center speaker will be divided equally between both the left and right front speakers.

Adjusting speaker output level

In order to reproduce the movement of the sound and its clear orientation, it is important to adjust the output level of each speaker. Adjust output to the correct levels while listening to the test signal.







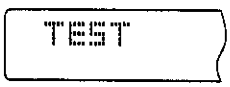
Before starting, check your front speakers are correctly balanced (see page 25).

1 MODE

Press MODE to select "SURROUND" or "3 STEREO".

2 TEST

Press TEST to output a test signal.



The test signal is emitted in the following order:

For SURROUND mode

Front speaker (left)→Center speaker
↑ ↓
Surround speakers←Front speaker
(left, right) (right)

Note

The test signal is not emitted from the center speaker when the center mode is on PHANTOM.

For 3 STEREO mode

Front speaker (left)→Center speaker
↑
Front speaker (right)←┘

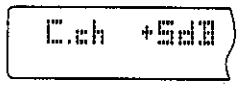
3 VOLUME

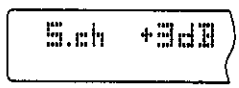
Turn VOLUME to set the volume level normally used for enjoying the source.

4 – CENTER +

– SURROUND +

Press CENTER (–) or (+) or SURROUND (–) or (+) on the remote control to adjust the output level balance.





Adjust the output level of each speaker from the listening position until they are all identical.
Output levels can be varied within a range of ±12 dB with front speaker output level serving as the zero point.

Note

- The test signal is output only by the speaker you are now adjusting and does not repeat the sequence until adjustments are complete.
- Remember you cannot adjust output level of the surround speakers if you selected the 3 STEREO mode in step 1.

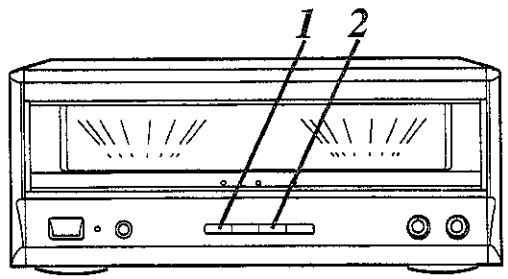
To stop the test signal:

Press TEST.

Adjusting the delay time

When enjoying with SURROUND only

Adjust the sound from the surround speakers until the proper effect is produced.



1 MODE

Press MODE to select "SURROUND".

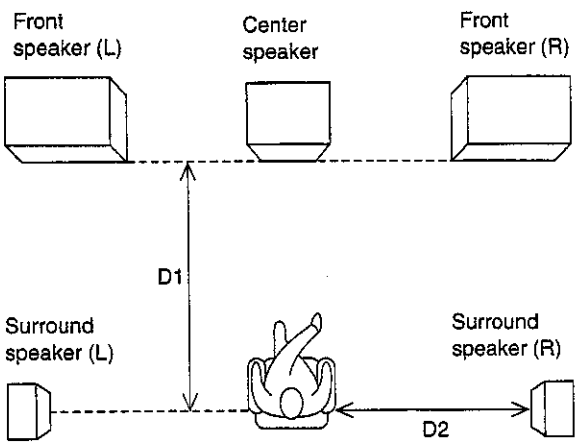
2 DELAY TIME

Press DELAY TIME to set to the suitable time.

When the button is pressed, the current delay time is displayed, pressing it again changes the delay time.
Each time the button is pressed, the delay time will increase by 5 ms.
15 ms→20 ms→25 ms→30 ms

To calculate the delay time, refer to the calculation methods.

The standard setting is 20 ms.

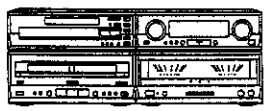


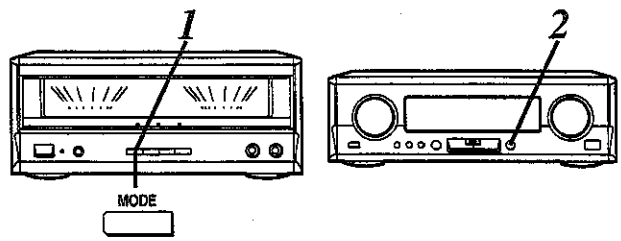
D1: Distance from front speakers
D2: Distance from surround speakers

If D1 is equal to or less than D2:
Set to 15 ms.
If D2 is less than D1:
Start at 15 ms and increase by 5 ms for every 1.5 m of difference between D1 and D2.

Enjoying with SURROUND or 3 STEREO

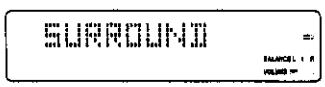
Before trying anything, have you set the center mode and adjusted speaker output level and adjusted the delay time?
When viewing a video, turn on the power supply for the TV and set the TV to video mode.





1 MODE

Press MODE to select "SURROUND" or "3 STEREO".



2 INPUT SELECTOR

Press INPUT SELECTOR to select the desired external source.

Each time you press this button, sound sources will be switched as follows.

TUNER→CD→TAPE→EXT
↑ ↓
PHONO←VDP←VCR

These indications correspond to terminals on the tuner's rear panel. Switch the displayed indication to the source you want to use.

Note

You can not enjoy SURROUND or 3 STEREO in the tuner mode.

3

Start the desired source.

To operate external sources, see the instruction manual provided with the specific unit.

Note

When employing SURROUND, use software recorded in Dolby Surround.

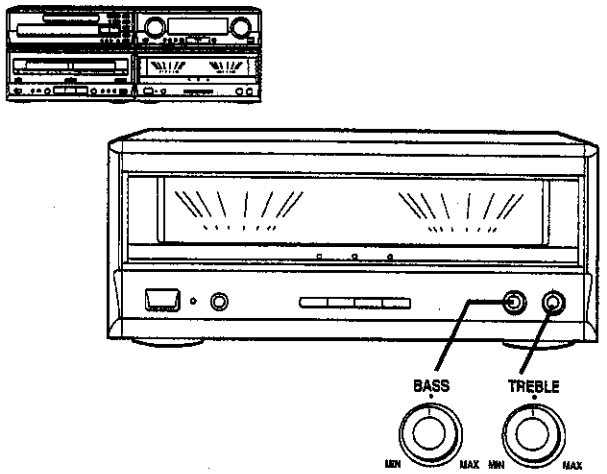
To turn off the DOLBY PRO LOGIC systems:

Press MODE to select "OFF".

Note

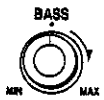
You cannot record acoustical effects produced in the SURROUND and 3 STEREO modes.

Changing the tone



Adjusting the bass sound

Turn BASS to adjust the level.



To increase the bass effect

To decrease the bass effect

Note

The effect works only with playback. It cannot be used in recording.

Adjusting the treble sound

Turn TREBLE to adjust the level.

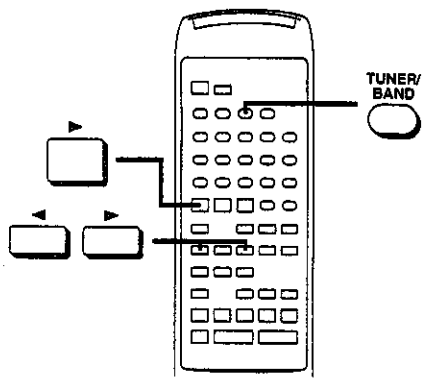
To increase the treble effect

To decrease the treble effect

Note

The effect works only with playback. It cannot be used in recording.

Convenient functions



Easy play

by remote control only

- From the power standby condition, you can start play directly.
- The play will start with volume increasing gradually.

Listening to compact discs

Press ▶.

The play will start from the first track. When the tracks has been programmed (See page 18), the play will start in the programmed sequence.

Listening to radio broadcasts

Press TUNER/BAND.

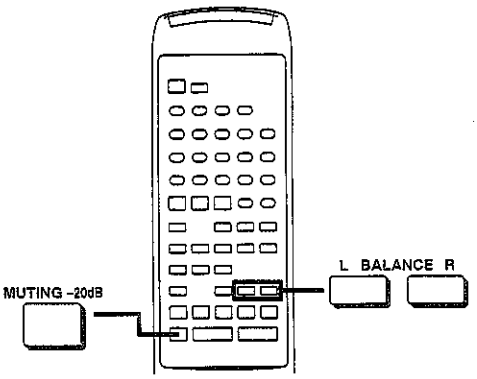
You can receive the station last tuned in.

Listening to tapes

Press ◀ or ▶.

- Playback will automatically start under the same conditions (reverse mode) as last set.
- When tapes have been loaded in both decks, deck 1 has priority.

Before recording



To mute the volume

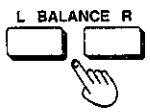
by remote control only

Press MUTING —20 dB.
"MUTING" will light.

This feature is convenient when you have a telephone call, etc.
Sound remains muted when you put the stereo on standby.
To cancel, press MUTING —20 dB once again.
To cancel from the amplifier, reduce the volume level to the minimum position (–– dB) and then reset to the desired volume.

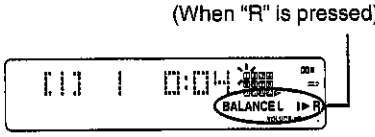
To adjust the left-right volume balance

by remote control only



Press L or R of BALANCE.
The display shows "◀" or "▶".

(When "R" is pressed)



(The display in the diagram shows when "R" button is pressed)
Pressing L and R of BALANCE simultaneously will restore the balance to the center position.

If balance is set to either the right or left, when you turn the power ON, "◀ ▶" will flash on the display for approximately 5 seconds.

DECK 2 only

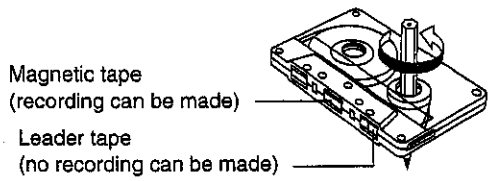
Type of tape which can be recorded correctly

The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	O
HIGH POSITION/TYPE II	O
METAL POSITION/TYPE IV	O

How to advance the leader tape

Wind the leader tape forward so that recording can start as soon as you press the button. But, this is not necessary if one-touch editing from CDs.



About Dolby noise-reduction system

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes. During recording, the system functions to increase the high-frequency sound level, the sound, and then, during playback, that same portion is weakened to bring it back to the previous level.
This unit includes two types of Dolby noise-reduction systems, the Dolby B NR-type and C NR-type.

Dolby B-type noise reduction:

Noise is reduced to about one-third.
Use this system when playing back tapes recorded by the Dolby-B noise-reduction system, such as prerecorded music tapes, etc.

Dolby C-type noise-reduction:

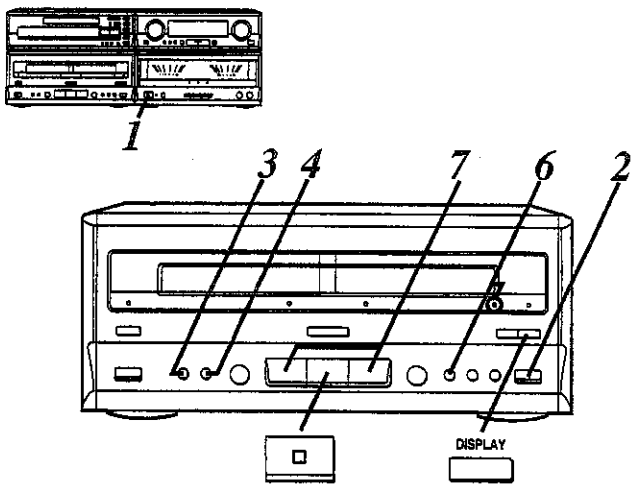
Noise is reduced to about one-tenth.
Use this system for the recording and playback of sound sources that have a wide dynamic range and good tone quality, such as FM broadcasts of live performances, etc., and for playing back such tapes.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.

Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

Recording from radio broadcasts

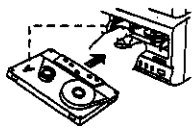
DECK 2 only



1 POWER / STANDBY

Switch on the power.

2 ▲OPEN/CLOSE



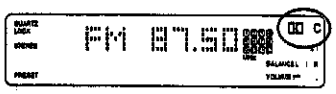
Press ▲ OPEN/CLOSE on deck 2, and then insert the tape with the exposed part of the tape facing inward.

Insert the cassette tape until it touches the back of the compartment.

Press ▲ OPEN/CLOSE on deck 2 to close the holder.

3 DOLBY NR

Press DOLBY NR to select the appropriate noise-reduction system.

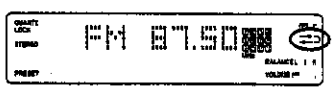


Each time you press this button, the indicator will change as follows:

DD B→DD C→off

4 REV MODE

Press REV MODE to select the reverse mode.



⇄ : One side will record, and then the tape will stop automatically at the tape end.

⇄⊃ : Both sides will record (forward side→reverse side), and then the tape will stop automatically at the tape end.

C⇄⊃ : Same as above (When you press ● REC PAUSE, "C⇄⊃" will be automatically switched over to "⇄⊃").

5 **Tune in the desired station.**

See page 14.

6 ●REC PAUSE

Press ● REC PAUSE to put the cassette deck into the recording standby mode.

REC PAUSE indicator will light.

"◁" or "▷" indicator on the playback buttons flashes.

7 ◁ ▷

Press ◁ or ▷ to start recording.

▷: To begin recording from the forward side.

◁: To begin recording from the reverse side.

To stop recording:

Press □.

To display the tape counter while recording:

Press DISPLAY.

The tape counter will be displayed for approximately 5 seconds. This is a useful way for knowing what point of the tape you're at.

To cut an unnecessary part while recording:

1. Press ● REC PAUSE.
   The cassette deck will go into the recording standby state.
2. To resume recording, press ◁ or ▷, whichever is flashing.

Recording from compact discs

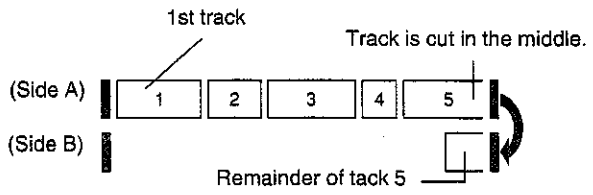
DECK 2 only

There are 2 ways to record from compact discs, normal recording and one-touch editing.

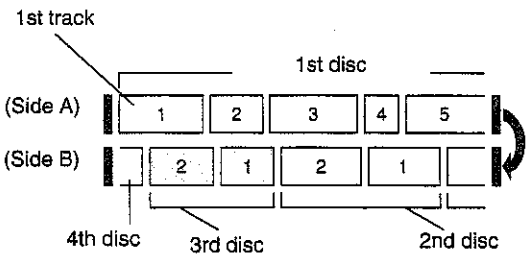
Normal recording

In normal recording, no blank space is left at the end of side A. But, this means a track will be cut off in the middle when the end of the side is reached. This method can also be used to record onto a tape from a desired point halfway through one side, or to record from programmed CDs.

When recording from only one CD



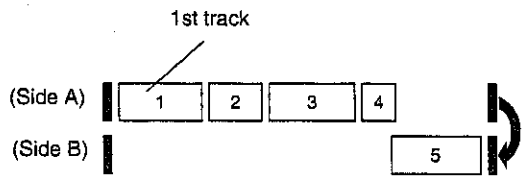
When recording from 2 to 5 discs



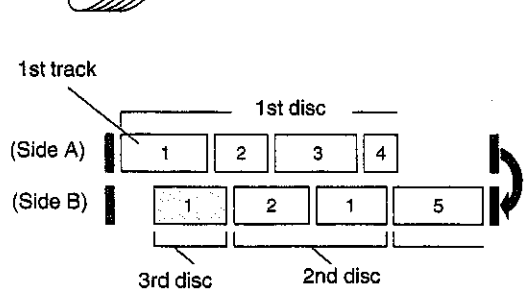
One-touch editing [AI EDIT (ALBUM)]

The tape deck automatically reads the length of the loaded tape, and then calculates which tracks go on which side of the tape so that no track is cut in the middle at the end of either side.
Recording will begin from the first track of the disc shown on the display. It will continue through the last track on disc 5 and will then stop automatically.

When recording from only one CD



When recording from 2 to 5 discs



Note

- Use a tape of under 99 minutes.
- You cannot edit-record tracks numbering higher than 24.
- In one-touch editing, you cannot record from programs that contain selections from two or more discs.

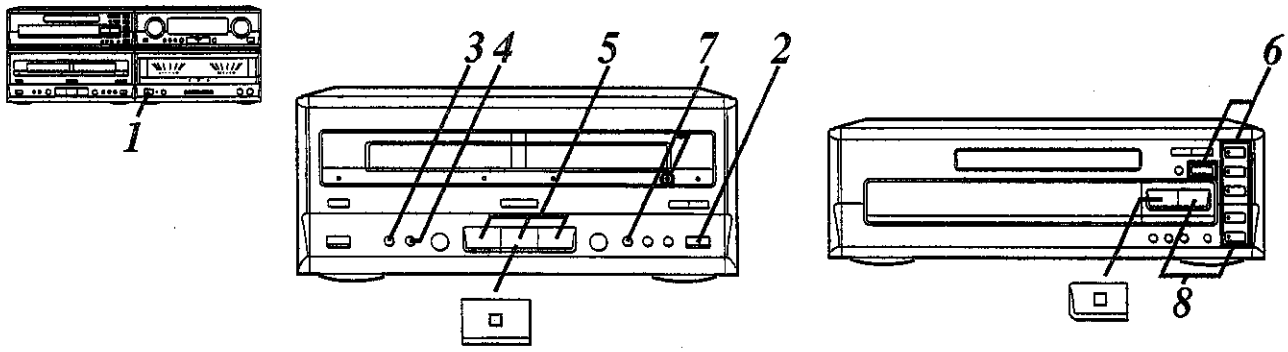
Recording onto left over space on tapes (LINK):

After the edit-recording of loaded CDs have finished, you can subsequently edit-record other CD(s) on the remaining blank portion of the tape.
This function is convenient when recording from 8 cm CDs successively.

For your reference:

It is better to use a tape slightly longer than the CD playing time when recording.

Normal recording



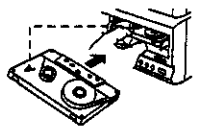
1 POWER, STANDBY/ON

Switch on the power.

2 ▲OPEN/CLOSE

Press ▲ OPEN/CLOSE on deck 2, and then insert the tape with the exposed part of the tape facing inward.

Insert the cassette tape until it touches the back of the compartment.



Press ▲ OPEN/CLOSE on deck 2 to close the holder.

3 DOLBY NR

Press DOLBY NR to select the appropriate noise-reduction system.

Each time you press this button, the indicator will change as follows:

□□ B→□□ C→off

4 REV MODE

Press REV MODE to select the reverse mode.

⇄: One side will record, and then the tape will stop automatically at the tape end.

⇄⊃: Both sides will record (forward side→reverse side), and then the tape will stop automatically at the tape end.

⊂⇄⊃: Same as above (When you press ● REC PAUSE, "⊂⇄⊃" will be automatically switched over to "⇄⊃").

5 ◁ ▷ □

Set the tape travel direction.

To change the tape travel direction, first press ◁ or ▷ on the cassette deck, then □.

▷: Recording from the forward side

◁: Recording from the reverse side

6 ▲OPEN/CLOSE, DISC 1 2 3 4 5

Insert CDs in the trays.

(For details, see page 15.)

Recording will begin from the first track of the disc shown on the display. For example, if disc [4] is displayed, recording will begin from the first track on disc 4, and will continue in progressive order.

Order of progression:

Disc 4→5→1→2→3

7 ●REC PAUSE

Press ● REC PAUSE to put the cassette deck into the recording standby mode.

REC PAUSE indicator lights.

"◁" or "▷" indicator on the playback buttons flashes.

8 DISC 1 2 3 4 5, ▷

Press ▷ on the CD changer.

To record from disc 1, press DISC 1.

The recording will automatically start corresponding to the tape travel direction.

Approximately 4 seconds after the CD finishes playing, the tape deck will automatically put recording on standby.

To stop recording:

●To add a 4 second silent interval before stopping

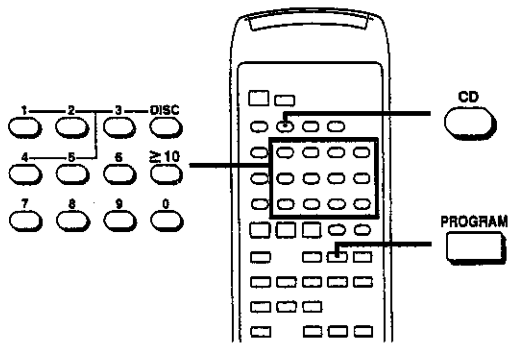
Press □ on the CD changer.

The cassette deck will go into the recording standby state.

●To stop recording without a silent interval

Press □ on the tape deck.

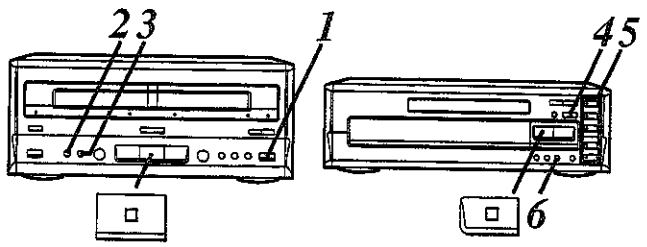
To record programmed tracks



① Perform steps 1–6 above, and then press CD on the remote control.
② Press PROGRAM on the remote control.
③ Press DISC on the remote control.
④ Select the CD from the remote control with buttons 1–5.
⑤ Select the track number from the remote control with the numeric buttons.
⑥ Repeat steps ③ through ⑤ until programming all tracks (max. 24 tracks).
⑦ Perform above steps 7 and 8.

One-touch editing

One-touch editing automatically positions the leader tape for you, so you don't have to do it manually.



Note

One-touch editing is designed to record all the way through disc 5. If you want to record just one CD, set it in tray 5.

1 ▲OPEN/CLOSE

Press ▲ OPEN/CLOSE on deck 2, and then insert a tape.

Insert the cassette tape until it touches the back of the compartment.
Press ▲ OPEN/CLOSE once again to close the holder.

2 DOLBY NR

Press DOLBY NR to select the appropriate noise-reduction system.

Each time you press this button, the indicator will change as follows:
□□ B→ᴅᴅ C→off

3 REV MODE

Press REV MODE to select the reverse mode.

⇄: One side will record, and then the tape will stop automatically at the tape end.
⇄ↄ: Both sides will record (forward side→reverse side), and then the tape will stop automatically at the tape end.
ⅽ⇄ↄ: Same as above (When you press ● REC PAUSE, "ⅽ⇄ↄ" will be automatically switched over to "⇄ↄ".).

4 ▲OPEN/CLOSE

Insert CDs in the trays.

(For details, see page 15.)
Recording will begin from the first track of the disc shown on the display.

5 DISC 1 2 3 4 5 → □

Specify the disc (DISC 1–5) you want to start recording from. Then, press □ on the CD changer.

Of course, if the number of the disc you wanted is already displayed, you do not have to select it.

6 AI EDIT (ALBUM)

Press AI EDIT.

The deck will rewind the tape and recording will start. In the meantime, "AI EDIT" will scroll across the display from right to left. However, it will take a moment for recording to actually begin.

To stop one-touch editing:

Press □ on the cassette deck.
The CD changer also stops.
"EDIT OUT" will scroll across the display from right to left.

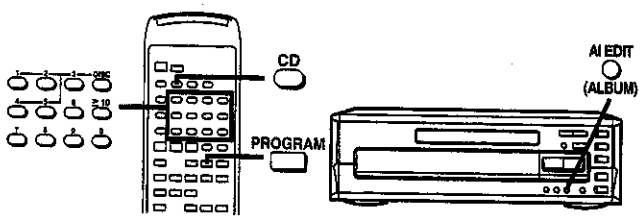
One-touch editing operation:

1. The cassette deck will fast-forward and rewind to measure its length.
2. The cassette deck will advance the tape beyond the leader tape, and then stop.
3. The CD changer assigns tracks to tape side A and B, and display the result. In addition to the above information, the remaining time of the tape side A and B will be also displayed.
4. Actual recording starts.
5. When the first CD has been recorded, the deck will start recording the next CD if there is enough room on the tape. If so, "LINK" will appear on the display.

When there are tracks allotted on tape side B:

After recording tracks allotted on tape side A, the cassette deck will continue recording making the blank portion on tape side A.

To edit-record programmed tracks



① Perform steps 1–4 above, and then press PROGRAM on the remote control.
② Select the track number from the remote control with the numeric buttons.
③ Repeat step ② until programming all tracks (max. 24 tracks).
④ Press AI EDIT. Recording will begin.

Note

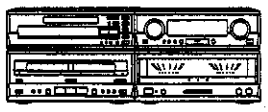
In one-touch editing, you cannot record from programs that contain selections from two or more discs.

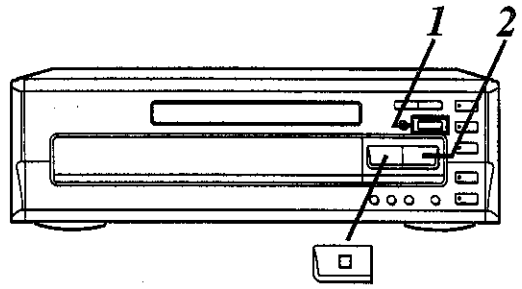
After edit-recording has finished:

The tape deck automatically puts recording on standby. In the meantime, if "LINK" is flashed on the display, there is enough space on the tape that you can continue recording from another CD (see page 30). If you want to link the tracks, do not press □ on the CD changer.

Recording onto left over space on tapes (LINK)

You can link up another CD when "LINK" flashes after editing a CD.





1

Press ▲ OPEN/CLOSE to replace the CD with another one.

The time remaining on tape

The tray of the last disc (disc 5) recorded will open. Load the new CD in there.

Note

If you were recording programmed tracks, the tray with the disc you were recording from will open.

2

Press ▷.

Linking will start.

To continue linking tracks:

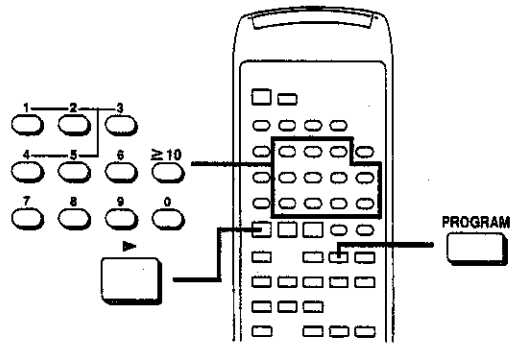
Repeat steps 1 and 2.

As long as there is space on the tape to record, when the recording finishing, the tape deck will put linking on standby.

To cancel the LINK function:

Press □ on the CD changer.

Linking programmed tracks

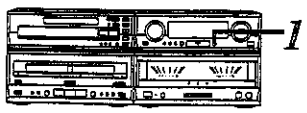


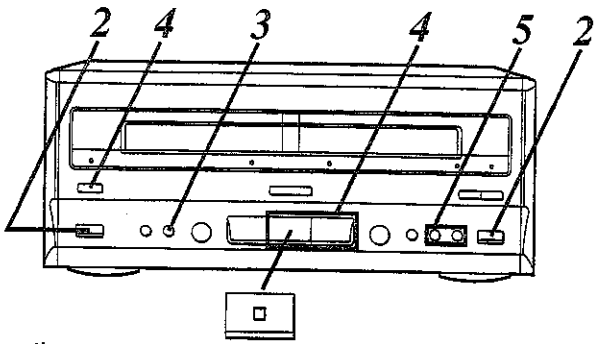
① Perform step 1 above, and then press PROGRAM on the remote control.
② Select the track number from the remote control with the numeric buttons.
③ Repeat step ② until programming all tracks (max. 24 tracks).
④ Press ▶. Linking will begin.

Note

- While linking is in course, you cannot open and close trays other than disc 5. When recording from a program, you can open only the tray used in programming.
  To open other trays, cancel the link function.
- When the display shows "0:00", you cannot record from another CD. Press □ on the CD changer.
- If the time remaining on the tape is shorter than the length of the tracks to be recorded, you cannot record the tracks. Replace the CD with the tracks shorter than the time remaining on the tape or press □ on the CD changer.

Tape-to-tape recording





Preparation
The leader tapes in both decks must be wound up beforehand.
(See page 25.)

1 INPUT SELECTOR

Press INPUT SELECTOR to select "TAPE".

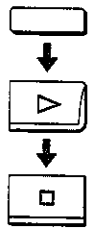
2 ▲OPEN/CLOSE

Press ▲ OPEN/CLOSE on the both decks, and then insert the tapes.
DECK 1: For playback
DECK 2: For recording
Press ▲ OPEN/CLOSE to close each deck's holder.

3 REV MODE

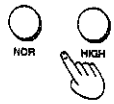
Press REV MODE to select the reverse mode.
⇄: Single-sided recording
⇄⊃: Two-sided recording (forward side→reverse side)
C⇄⊃: Same as above (When you press NOR or HIGH, "C⇄⊃" will be automatically switched over to "⇄⊃").

4 DECK1/2



Set the tape direction to "▷" of deck 1 and 2.
Press DECK 1/2 and confirm both deck's tape directions are "▷".
To change the tape direction, first press ▷, and then □.
To record on the reverse side, set deck 2 to "◁".

5 TAPE EDIT



Press NOR or HIGH of TAPE EDIT to start recording.
NOR: When you wish to monitor the sound while recording
HIGH: When you wish to record at high speed (about 2.0 times normal speed)

While recording, both deck 1 and 2 indicators light up. Tape direction indicator (◁ or ▷) shows deck 2 direction.
If either of deck 1 or deck 2 stops, the other deck also stops.

To stop recording:
Press □.
Both decks will stop.

To enjoy another source while recording:
Start playing the other sound source.
You can change the volume level and tone quality without affecting the recording.

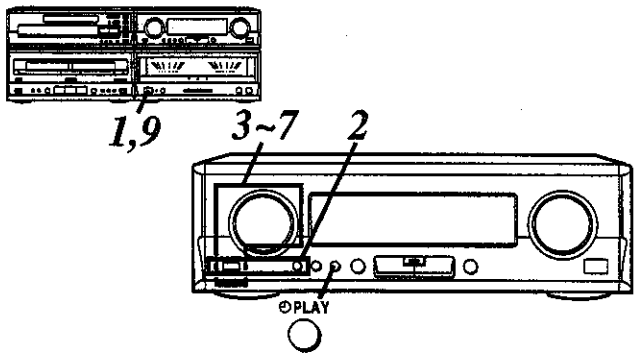
Note

- During high speed recording, turn OFF TVs or any other image projecting equipment so as to prevent static from being recorded.
- Tone changes and special effects cannot be recorded.
- The recording level and the noise reduction effect of the original (playback) tape will be recorded on the new tape.

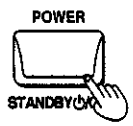
Using the timer

Setting the play timer

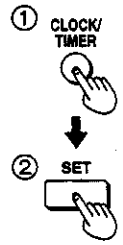
Make sure that you have completed "Setting the time" on page 11.
Select this timer when you want to use the timer as an alarm clock. You can wake up with listening to music (CD, tuner, tape) at a desired volume level and time.



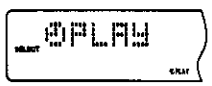
The following example in the figure shows how to set the play timer for; playing a CD at −40 dB everyday from Monday through Friday 6:30 to 7:40.

1 

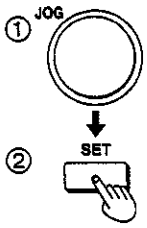
Switch on the power.

2 

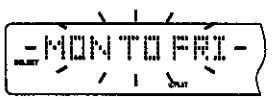
① Press CLOCK/TIMER three times to show "⏲ PLAY" on the display.



within 25 seconds:
② Press SET.

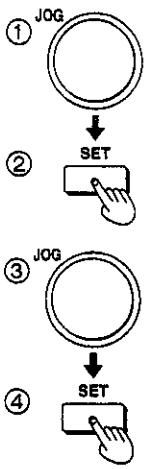
3 

① Turn JOG to select the day.

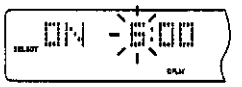


② Press SET.

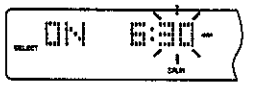
About the variation of the day setting:
One day from Sunday to Saturday:
SUN...SAT
Everyday from Sunday to Saturday:
SUN TO SAT
Everyday from Monday to Saturday:
MON TO SAT
Everyday from Monday to Friday:
MON TO FRI
Saturday and Sunday only:
SAT, SUN

4 

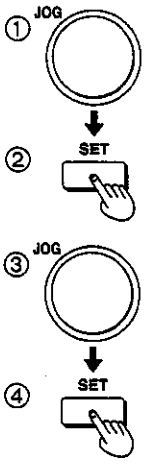
("ON" time setting)
① Turn JOG to select the hour.



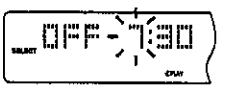
② Press SET.
③ Turn JOG to select the minutes.



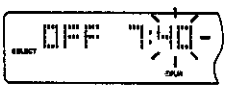
④ Press SET.

5 

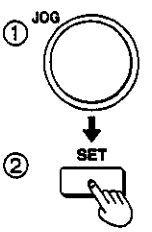
("OFF" time setting)
① Turn JOG to select the hour.



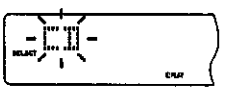
② Press SET.
③ Turn JOG to select the minutes.



④ Press SET.

6 

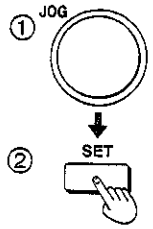
① Turn JOG to select the desired source.
The display will change as follows.
CD→TAPE→TUNER



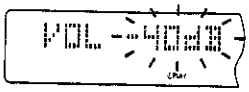
② Press SET.

When you select "TUNER", select a desired preset channel using JOG, and then press SET.

7



① Turn JOG to adjust the volume level for the timer play.



② Press SET.

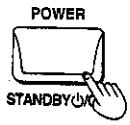
The display will show the day, ON time, OFF time, the source you select, and the volume level alternately, and then resumes the previous display.

8

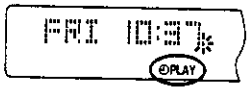
Prepare for the play.

When you play a CD: Load a CD.
When you play a tape: Load a tape.

9



Press POWER to switch the power to standby mode.



Please confirm "⏲ PLAY".
The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

To confirm the play timer:

Press CLOCK/TIMER to show "⏲ PLAY".
The display will show the day, ON time, OFF time, the source you select, and the volume level alternately.
You can operate this even if the system is in the standby mode.

To change the play timer setting:

Follow the procedure from the first step.

Using the timer at the same time setting continuously:

You can operate this even if the system is in the standby mode.
The play timer setting will stay in the memory.
1. Press ⏲ PLAY to show "⏲ PLAY".
2. Press POWER to switch the power to standby mode.

To enjoy the desired source after the timer setting is completed:

1. Start playing the desired source.
   Even if you change the volume level or music source, the timer play will start with the preset condition.
2. Press POWER to standby mode after enjoying the play.

To cancel the timer:

Press ⏲ PLAY to go out "⏲ PLAY".
The play timer function will be canceled, but the setting stays in the memory.

Note

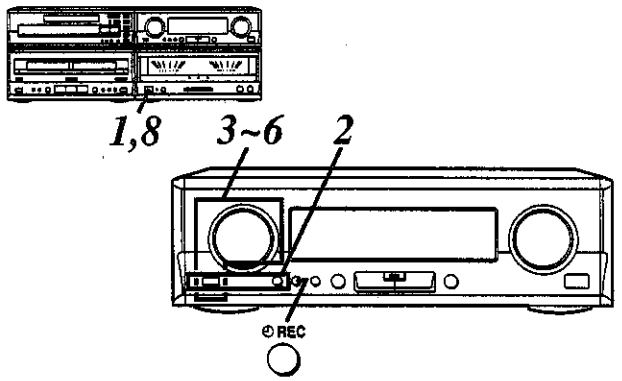
- If the power is on, the timer will not function. The system must be in the standby mode.
- This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, the previous OFF time setting will change to the same setting.
- You cannot make the ON time and OFF time same setting.
- The play timer will function until you cancel the play timer mode. When the display shows "⏲ PLAY", the play timer will be activated.
- If you switch the power to standby mode while play timer is functioning, the OFF time setting will not be activated.

For your reference:

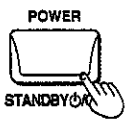
When you insert cassettes in both deck 1 and 2, deck 1 has priority for timer play on tape.

Setting the record timer

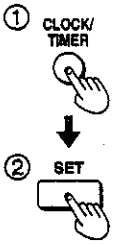
Make sure that you have completed "Setting the time" on page 11.
Select this timer when you want to use the timer to record a midnight program or while you are out. The system will record a desired radio broadcast at a desired time.



The following example in the figure shows how to set the record timer for; recording preset channel no. 1 on Saturday from 18:30 to 20:00.

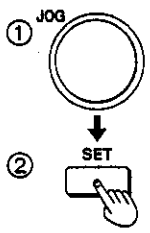
1 

Switch on the power.

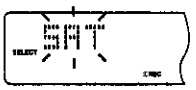
2 

① Press CLOCK/TIMER twice to show "⏲ REC" on the display.

within 25 seconds:
② Press SET.

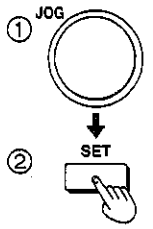
3 

① Turn JOG to select the day.

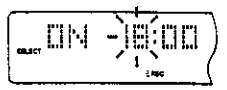


② Press SET.

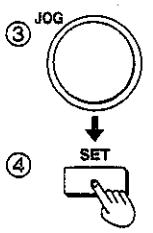
About the variation of the day setting:
One day from Sunday to Saturday:
SUN...SAT
Everyday from Sunday to Saturday:
SUN TO SAT

4 

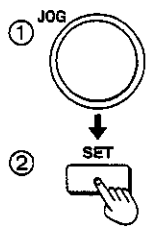
("ON" time setting)
① Turn JOG to select the hour.



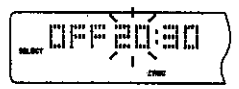
② Press SET.
③ Turn JOG to select the minutes.



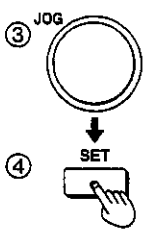
④ Press SET.

5 

("OFF" time setting)
① Turn JOG to select the hour.

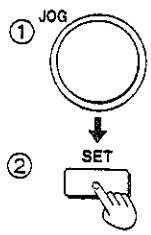


② Press SET.
③ Turn JOG to select the minutes.



④ Press SET.

6



① Turn JOG to select the desired preset channel.

The display will change as follows.
CH1→CH2...CH38→CH39

When you turn JOG to the left, the reverse operation will take place.

② Press SET.

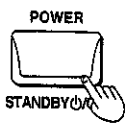
The display will show the day, ON time, OFF time, the broadcast station you select alternately, and then resumes the previous display.

7

Prepare for recording.

1. Insert a tape into deck 2.
2. Select the Dolby NR mode.
3. Select the reverse mode.
4. Select the tape travel direction.

8



Press POWER to switch the power to standby mode.

Please confirm "⏲ REC".
The tuner recording will start 30 seconds before the setting time.
The sound will be automatically muted during timer recording.

To confirm the record timer:

Press CLOCK/TIMER to show "⏲ REC".
The display will show the day, ON time, OFF time, the broadcast station you select alternately.
You can operate this even if the system is in the standby mode.

To change the record timer setting:

Follow the procedure from the first step.

Using the timer at the same time setting continuously:

You can operate this even if the system is in the standby mode.
The record timer setting will stay in the memory.

1. Press ⏲ REC to show "⏲ REC".
2. Press POWER to switch the power to standby mode.

To enjoy the desired source after the timer setting is completed:

1. Start playing the desired source.
   When listening to a cassette tape, use the deck 1.
   Even if you change the music source, the timer recording will start with the preset condition.
2. Press POWER to standby mode after enjoy the play.

To cancel the timer:

Press ⏲ REC to go out "⏲ REC".
The record timer function will be canceled, but the setting stays in the memory.

Note

- If the power is on, the timer will not function.
- This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, the previous OFF time setting will change to the same setting.
- You cannot make the ON time and OFF time same setting.
- Once the record timer operation finishes, it clears the record timer mode (except for everyday mode "SUN TO SAT"). When the display shows "⏲ REC", the record timer will be activated.
- If you switch the power to standby mode while record timer is functioning, the OFF time setting will not be activated.

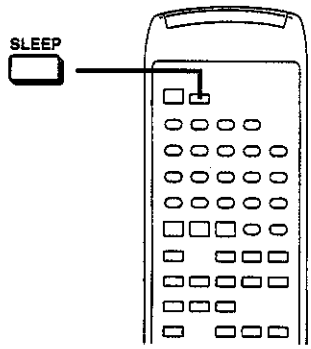
For your reference:

When you want to record a same program over several weeks (except when you select everyday mode "SUN TO SAT"), press ⏲ REC to show "⏲ REC" after the timer recording has finished.

To use the sleep timer

by remote control only

Select this timer when you want to use the timer to stop the music automatically as you can fall asleep while listening. The system will go into power standby mode after assigned time has passed (within 120 minutes, 30 min. intervals).



The following example in the figure shows how to set the system to standby mode after 30 minutes.

While enjoying the desired source:
Press SLEEP.

"SLEEP" lights up.

Each time you press the button, the display will change as follows:

SLEEP 30→SLEEP 60→SLEEP 90
↑ ↓
SLEEP OFF←SLEEP 120

To confirm the remaining of the sleep timer:

(While sleep timer is functioning:)
Press SLEEP.
The remaining time will be displayed.

To change the timer setting while sleep timer is functioning:

1. Press SLEEP.
   The remaining time will be displayed for 5 seconds.
2. Press SLEEP again to select the desired SLEEP timer.
   Each time you press the button, the display will change as follows:

SLEEP 30→SLEEP 60→SLEEP 90
↑ ↓
SLEEP OFF←SLEEP 120

To cancel the sleep timer:

Press SLEEP to select "SLEEP OFF".
"SLEEP" goes out.

To use each timer mode in conjunction

To go to sleep listening to an FM broadcast and wake up the next morning listening to a CD

1. Make a play timer setting for a CD.
2. Tune in the desired band and station, and adjust the volume level.
3. Make a sleep timer setting.

To make a timer recording from a radio broadcast while sleeping, and wake up the next morning listening to a tape

1. Make a record timer setting.
2. Make a play timer setting for deck 1, and switch the power to standby mode. (Select "⇄" of the reverse modes.)
   Be sure to set the record timer to be off before the play timer will begin.

To go to sleep listening to a CD, and then to make a timer recording from a radio broadcast

1. Make a record timer setting.
2. Play a CD, and adjust the volume level.
3. Make a sleep timer setting.
   Be sure to set the system into standby mode before the timer recording will begin.

To go to sleep listening to a tape, and wake up the next morning listening to a CD, and record from a radio broadcast while going out

1. Make a record timer setting.
2. Make a play timer setting for a CD.
   Be sure to set the timer play to be off before the timer recording will start.
3. Playback the tape in deck 1, and adjust the volume level.
   (Select "⇄" of the reverse modes.)
4. Make a sleep timer setting.

Timer sequence priority:

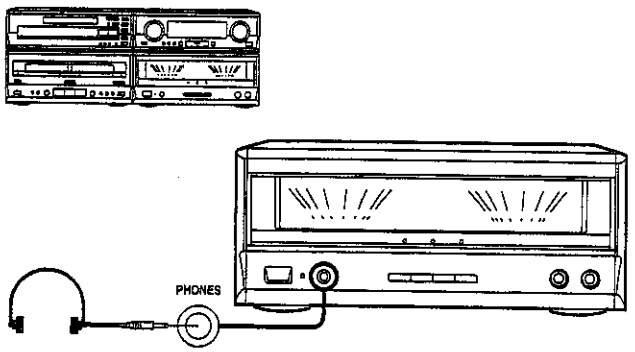
Sleep timer, record timer, play timer is the timer operation of priority in order. Be sure not to make each timer setting overlap.

For your reference:

- When the OFF time of the record timer and the ON time of the play timer are the same, both timers will function.
- When the OFF time of the play timer and the ON time of the record timer are the same, both timers will function.

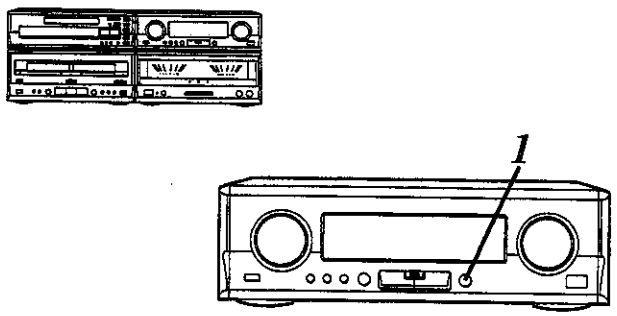
Using an external unit

To use headphones



Connect the headphones to the headphones jack.
Before connecting, reduce the volume level.
Avoid listening for prolonged periods of time to prevent hearing damage.
Plug type: Stereo large type

Listening to an external source



1 INPUT SELECTOR

Press INPUT SELECTOR to select the desired external source (EXT, VCR, VDP, PHONO).

Each time you press this button, sound sources will be switched as follows.

TUNER → CD → TAPE → EXT
↑ ↓
PHONO ← VDP ← VCR

These indications correspond to terminals on the tuner's rear panel. Switch the displayed indication to the source you want to use.

2

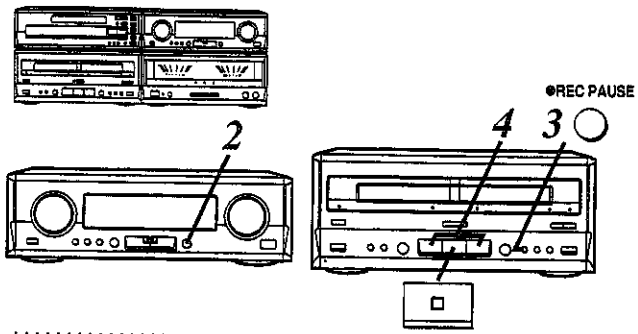
Operate the unit which is connected to the system.

See the instruction manual of the unit concerned for the operation.

When viewing a video, turn on the power supply for the TV and set the TV to video mode.

This stereo has a built-in DOLBY PRO LOGIC circuit, so you can enjoy the live sound of videos and laser discs recorded in Dolby Surround (see page 21).

Recording from an external source



1 **Follow steps 1–4 on page 26.**

2 INPUT SELECTOR

Press INPUT SELECTOR to select the desired external source (EXT, VCR, VDP, PHONO).

3 ●REC PAUSE

Press ● REC PAUSE to put the cassette deck into the recording standby mode.

4 ◁ ▷

Press ◁ or ▷ to start recording.

5

Start playing the source to be recorded.

See the instruction manual of the unit concerned for the operation.

To stop recording:

Press □ on the cassette deck.

To briefly interrupt recording:

Press ● REC PAUSE.
The cassette deck will go into the recording standby mode.

To resume recording:

Press ◁ or ▷ corresponding to the direction in which recording is taking place.

Recording on an external unit

You can record pictures from laser disc players when a VCR is connected to the "VCR" terminal on the rear of the stereo. For audio recordings, a DCC or minidisc player has to be connected to the "EXTERNAL" terminal.

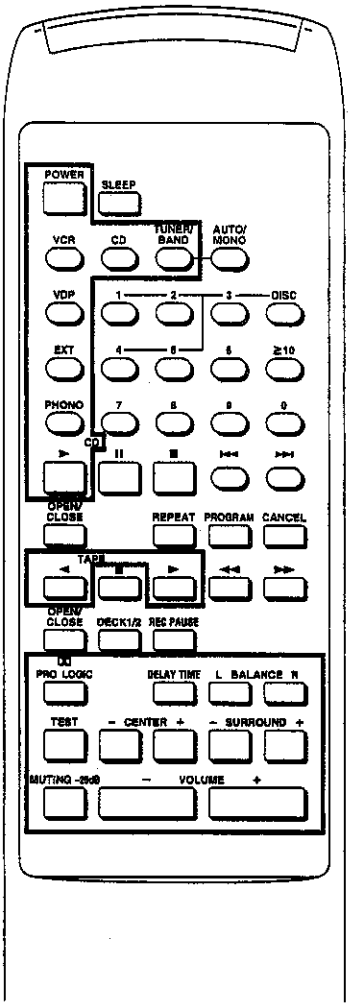
First, select the source—video or audio—with the INPUT SELECTOR. Then, start recording on an external unit, and then start playing the source to be recorded.
See the instruction manual of the unit concerned for the operation.

Note

You can make digital audio recordings of CDs on DCCs or minidisc players when the CD changer, DCC or minidisc player you are using is connected by optical fiber cable (sold separately).
(For an explanation on how to make connections, see page 8.)

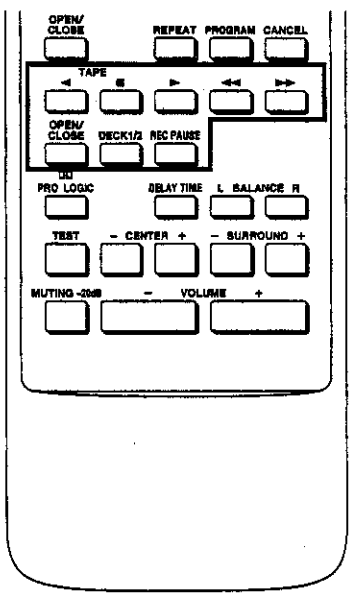
Quick reference of remote control operations

Basic operation



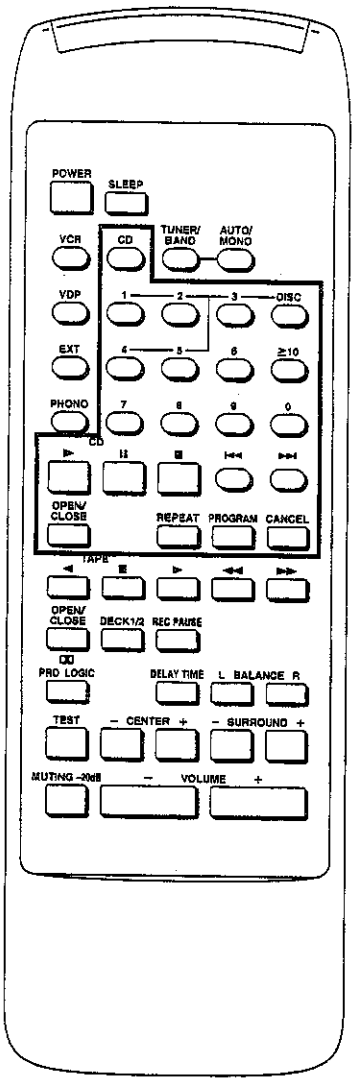
Switching the system on and power standby mode	POWER
Starting play directly from the power standby condition	TUNER/ BAND, CD, TAPE
Selecting the input source	VCR, CD, TUNER/ BAND, VDP, EXT, PHONO
Switching between DOLBY PRO LOGIC Surround modes	PRO LOGIC
Adjusting the delay time	DELAY TIME
Activating the test signal sound	TEST
Adjusting the center speaker level	– CENTER +
Adjusting the surround speaker level	– SURROUND +
Adjusting the volume balance	L BALANCE R
Muting the volume temporarily	MUTING -20dB
Adjusting the volume	–VOLUME+

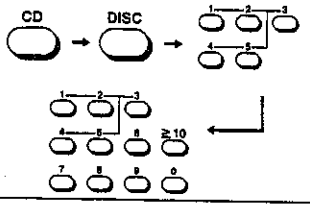
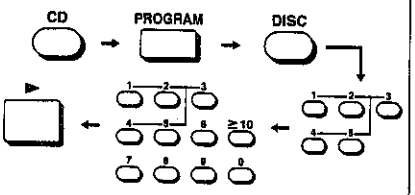
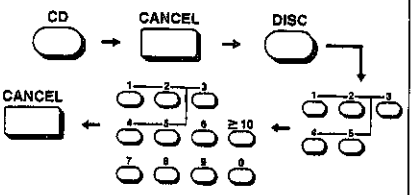
Tape section



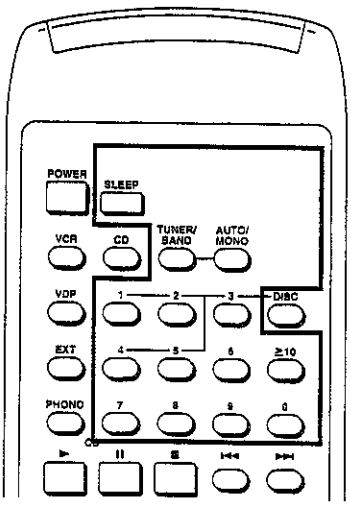
Opening or closing the cassette holder	OPEN/ CLOSE
Switching between deck 1 and deck 2	DECK1/2
Starting playback	TAPE
Fast forwarding or rewinding the tape	In the stop mode
Finding the beginning of a track	During playback
Stopping playback and recording	■
Recording	REC PAUSE → TAPE

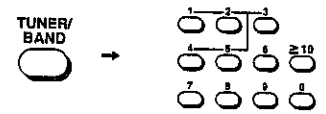
Compact disc section



Opening or closing the disc tray	
Starting play	
Temporarily stopping play	
Stopping play	
Skipping tracks	
Repeating play	
Starting play from a particular track	
Playing the particular track you programmed	
Cancelling the particular track you programmed	

Tuner, timer operation



Listening to the radio broadcasts	
Switching between FM stereo mode and monaural	
Operating/releasing the sleep timer	

Suggestions for safety

Placement

Avoid placing the unit in areas of:
- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.
To protect the unit against sound distortion and acoustical effects, please place the unit at least 15 cm away from wall surfaces etc.

Ventilation

- Place the unit in a well-ventilated position at least 10 cm away from wall surfaces etc.
- Ensure that curtains and similar materials do not obstruct the ventilation holes.

Stacking

Never place heavy items on top of the unit or the power cord.

Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.
  A fire might be caused by such a connection.
- A DC power source can not be used.
  Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

Power cord protection

- Avoid cuts, scratches or poor connection of the AC main cord, as this may result in fire or electric shock.
  Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit or through the ventilation holes.
  Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.
  (Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

Service

- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.
  A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

Before moving or shipping this CD changer:
Prepare the CD changer as described below to prevent damage to the mechanism.
1. Remove all CDs.
2. Select "CD" with INPUT SELECTOR on the tuner.
3. Hold down stop button (□) on the changer for 2 seconds and then without releasing it, hold down both it and DISC 5 for 2 more seconds. (This will turn OFF the unit and set the so-called "shipping mode".)
4. Unplug the stereo.

Avoid strong vibrations or impact while moving the equipment.
The shipping mode will turn OFF automatically when you turn the power ON the next time.

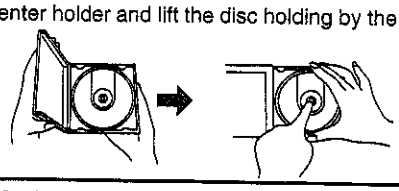
Concerning compact discs

Only compact discs having this mark can be used with this unit.

COMPACT disc DIGITAL AUDIO

To remove a disc from its case

Press the center holder and lift the disc holding by the edges.



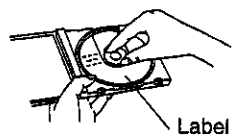
To hold the disc

Hold the disc by the edges so the surface is not soiled with fingerprints.
Fingerprints, dirt and scratches can cause skipping and distortion.

(Correct) (Incorrect)

To store a disc in its case

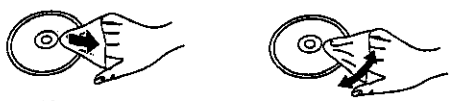
Insert the disc with label facing upwards and press downward at the center.



Label

If the surface is soiled

Wipe gently with a soft, damp (water only) cloth.



(Correct) (Incorrect)

If the disc is brought from a cold to a warm environment, moisture may form on the disc

Wipe this moisture off with a soft, dry, lint-free cloth before using the disc.

Improper disc storage:

You can damage discs if you store them in the following places;
- Areas exposed to direct sunlight
- Humid or dusty areas
- Areas directly exposed to a heat outlet or heating appliance

Handling precautions:

- Do not write on the label side with a ball-point pen or other writing utensils.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not soil with fingerprints.

Concerning cassette tapes

Selection of cassette tapes

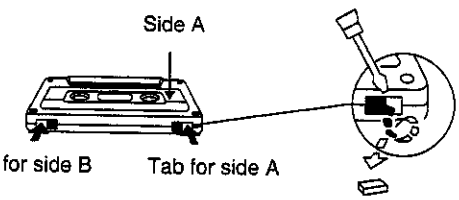
You can use normal, high position, and metal tapes for playback and recording:
The deck automatically identifies the kind of tape loaded, and sets the bias (for recording), recording level, equalization accordingly.
Cassette tape of 100 minutes or longer:
These tapes are handy for their long playback and recording time but be careful about repeatedly stopping, starting, rewinding and fast forwarding these tapes in short intervals as they are thin, tend to stretch and may become entangled in the mechanism.
Endless tapes:
Failure to operate these tapes correctly may cause the tape to wind around the revolving parts.
For this unit, it is recommended to use the tape which is appropriate to the auto reverse mechanism.

If the tape loosens, take up the slack

Tape slack may cause the tape to break.

To prevent erasure of recorded sounds

Remove the tabs with a screwdriver or a similar object.



To re-record on a protected cassette, cover the slot with adhesive tape.
Do not cover the detection holes on high position and metal tapes.

To erase recorded sounds

1. Press INPUT SELECTOR on the tuner to select "TAPE".
2. Insert the recorded tape into deck 2.
3. Press DOLBY NR so that the Dolby NR indicators ("B" and "C") are off.
4. Press REV MODE to select reverse mode.
5. Press ● REC PAUSE.
6. Press ◁ or ▷, whichever side you want to erase.

Improper tape storage:

You can damage tapes if you store them in the following places;
- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Areas exposed to direct sunlight

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.
If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Problem	Probable cause(s)	Suggested remedy
Problems common to all systems		
The location of the various musical instruments is not well defined.	The (+) and (−) connections to one of the speakers are reversed.	Connect the speaker cord correctly.
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly.
Humming is heard while playing.	A power cord or fluorescent lamp is located in the vicinity of cables.	Keep electric appliances away from the stereo. Try plugging the cord in, the other way.
Only one speaker is emitting sound.	One of the wires of the speaker cord is disconnected.	Connect the speaker cord correctly.
There is no sound when a source is being played.	The (+) and (−) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.
"U70" appears on the display.	Flat cables are not connected steadily.	Connect the flat cable steadily. When the "U70" display is not cleared after the flat cable have been connected properly, the unit is damaged. Consult your dealer.
While listening to FM broadcasts		
There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is a long distance away.	• If you are using an indoor antenna, change to an outdoor antenna. • If you are using a high-grade outdoor antenna, try changing the installation location, height, and orientation.
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.	
The stereo indicator flickers and does not light completely.	The transmitting station is a long distance away.	
	The power of the TV set or VCR is ON.	Try switching off the TV set or VCR.
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby. [Distortion is caused by interference between the signal from the transmitting station (direct wave) and the signal reflected from the building or mountain (reflected wave).]	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.
While listening to LW/MW (or AM) broadcasts		
You hear an unusual beat sound.	You are using the system at the same time you are playing a TV set.	Switch off the TV set, or use the system further away from it.
You hear a low-frequency hum.	The antenna wire is near the power cord.	Separate the antenna wire from the power cord.
When there is a television set nearby		
The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect.	If you are using an indoor antenna, change to an outdoor antenna.
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.

Problem	Probable cause(s)	Suggested remedy
While listening to tapes		
Sound is low, intermittent, or poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.
	Dolby noise reductions is set in the wrong position.	Set it to match the Dolby NR recording mode.
The deck does not enter the recording mode.	The erase-prevention tabs are removed from the cassette.	Attach tape to cover the space left by removal of the erase-prevention tabs.
While listening to compact discs		
The display will not show the correct indication. Disc play does not start when you press the play button.	The disc is not positioned correctly in the disc tray.	Load the disc on the tray correctly.
	The disc is loaded upside down.	Reload the disc.
	The disc is dirty.	Wipe the disc with a soft cloth.
	The disc is scratched.	Replace the disc with a new one.
	The disc is badly warped.	
	The disc is a nonstandard one.	Replace the disc with a different one.
	There is condensation inside the CD changer.	Switch the power ON, and then wait for 60 minutes before using the CD changer.
"ERROR" appears on the display.	You tried playing back in the program mode without programming any tracks.	Program tracks and then press the play button.
During one-touch editing		
"NO TAPE" appears on the display.	No tape is loaded into deck 2.	Load a tape.
"CHANGE TAPE" appears on the display.	The protector tab on the tape is broken.	Cover the tab's hole with adhesive tape or use another tape.
"ERROR" appears on the display.	You tried to record tracks from a program containing more than one disc.	You cannot record programs if containing tracks from more than one disc. If wanting to do so, set the tape deck to normal recording.
While using the remote control		
The system cannot be operated with the remote control.	The batteries are installed in the reverse polarity.	Reinsert the batteries in the correct polarity.
	The batteries are worn.	Replace the batteries with new batteries.

The servicer will require all components to service your system. Therefore, should service ever be necessary, be sure to bring the entire system.

Maintenance

■ Maintenance of external surfaces

To clean this unit, use a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

Wring the cloth well before wiping the unit.
Wipe once again with a soft, dry cloth.
Never use alcohol, paint thinner, benzine, or chemically treated cloths to clean this unit. Such chemicals may damage the finish of your system.

■ Tape head care

To assure sound quality for recording and playback, be sure to clean the heads after approximately every 10 hours of use by the cleaning tape (sold separately).

Technical specifications (DIN 45 500)

TUNER

■ **Pre-amplifier section**

Input sensitivity/impedance
- **PHONO** 2.5 mV/47 kΩ
- **EXTERNAL, VCR, VDP** 150 mV/15 kΩ

Output level
- **EXTERNAL/VCR RECOUT** 150 mV/1.5 kΩ

Frequency response
- **PHONO** 30 Hz–15 kHz/ +1.5 to −2.0 dB
- **EXTERNAL, VCR, VDP** 20 Hz–40 kHz

S/N
- **PHONO** DIN 75 dB (77 dB, IHF)
- **EXTERNAL, VCR, VDP** DIN 83 dB (85 dB, IHF)

■ **DOLBY PRO LOGIC section**

PRO LOGIC mode SURROUND, 3 STEREO

CENTER mode NORMAL, WIDE, PHANTOM

DELAY TIME 15, 20, 25, 30 ms

■ **FM tuner section**

Frequency range 87.50–108.00 MHz (0.05 MHz steps)

Sensitivity 1.8 µV (IHF usable)
- **S/N 26 dB** 1.5 µV

S/N
- **MONO** 70 dB (75 dB, IHF)

Stereo separation
- **1 kHz** 35 dB

Antenna terminal(s) 75Ω (unbalanced)

■ **AM tuner section**

(For United Kingdom)

Frequency range
- **MW** 522–1611 kHz (9 kHz steps) 530–1620 kHz (10 kHz steps)
- **LW** 144–288 kHz (9 kHz steps)

Sensitivity (S/N 20 dB)
- **MW** 500 µV/m
- **LW** 50 µV

(For Australia and N.Z.)

Frequency range 522–1611 kHz (9 kHz steps) 530–1620 kHz (10 kHz steps)

Sensitivity (S/N 20 dB) 500 µV/m

■ **Timer section**

Clock Quartz-lock type

Function 24-hour programmable; Play timer (1 time), Rec timer (1 time), Sleep (120 min, 30 min intervals)

Setting 1 minute–23 hours 59 minutes (1 min intervals)

■ **General**

Dimensions (W×H×D) 280×89×291 mm

Weight 1.75 kg

AMPLIFIER

■ **Amplifier section**

Power output
- **DIN 1 kHz, THD 1%, both channels driven** 2×50 W (6Ω)
- **RMS 1 kHz, THD 10%, both channels driven** 2×70 W (6Ω)
- **PRO LOGIC mode**
- **DIN 1 kHz, THD 1%**
  - **MAIN (both channels driven)** 2×40 W (6Ω)
  - **SURROUND** 40 W (4Ω+4Ω)
  - **CENTER** 40 W (8Ω)
- **RMS 1 kHz, THD 10%**
  - **MAIN (both channels driven)** 2×50 W (6Ω)
  - **SURROUND** 50 W (4Ω+4Ω)
  - **CENTER** 50 W (8Ω)

Total harmonic distortion
- **Rated power at 1 kHz** 1% (6Ω)
- **Half power at 1 kHz** 0.09% (6Ω)

Load impedance
- **MAIN** 6–8Ω
- **SURROUND** 4–8Ω
- **CENTER** 8Ω

S/N (rated power)
- **MAIN** 90 dB

■ **General**

Power consumption 235 W

Power supply 230–240 V, AC 50/60 Hz

Dimensions (W×H×D) 280×118.5×331 mm

Weight 5.2 kg

CD CHANGER

■ **Audio**

DA converter 1 bit 2 DAC MASH

■ **Pickup**

Wavelength 780 nm

■ **General**

Dimensions (W×H×D) 280×89×331 mm

Weight 2.5 kg

CASSETTE DECK

Deck system Stereo cassette deck

Track system 4 track, 2 channel

Recording system AC bias
- **Bias frequency** 100 kHz

Erasing system AC erase

Heads
- **Deck 1**
  - **(Playback head)** Permalloy head
- **Deck 2**
  - **(Recording/Playback head)** Permalloy head
  - **(Erasing head)** Double gap ferrite head

Motors
- **Deck 1, 2**
  - **Capstan drive** DC servo motor
  - **Reel table drive** DC motor

Tape speed 4.8 cm/s

Wow and flutter 0.1% (WRMS)

Fast forward and rewind times
Approx. 52 seconds with C-60 cassette tape

Frequency response (Dolby NR off)
- **NORMAL** 20 Hz–17 kHz (DIN)
- **HIGH** 20 Hz–17 kHz (DIN)
- **METAL** 20 Hz–17 kHz (DIN)

S/N (Signal level=max recording level, HIGH)
- **NR off** 56 dB (A weighted)
- **Dolby NR B on** 66 dB (A weighted)
- **Dolby NR C on** 74 dB (A weighted)

Input sensitivity and impedance
- **REC (IN)** 400 mV/23 kΩ

Output voltage and impedance
- **PLAY (OUT)** 280 mV/220Ω

■ **General**

Dimensions (W×H×D) 280×118.5×265 mm

Weight 2.5 kg

FRONT SPEAKER

Type 2 way, 2 speakers, Bass-reflex

Speaker(s)
- **Woofer:** 14 cm cone type
- **Tweeter:** 2.5 cm dome type

Impedance 6Ω

Input power 100 W (Music), 50 W (DIN)

Output sound pressure level 84 dB/W (1.0 m)

Cross over frequency 2.6 kHz

Frequency range 42 Hz–25 kHz (−16 dB)

■ **General**

Dimensions (W×H×D) 226×412×282 mm

Weight 6.7 kg

CENTER SPEAKER

Type 1 way, 2 speakers, Bass-reflex

Speaker(s)
- **Full range:** 8 cm cone type×2

Impedance 8Ω

Input power 160 W (Music), 80 W (DIN)

Output sound pressure level 91 dB/W (1.0 m)

Frequency range 138 Hz–18 kHz (−16 dB)

■ **General**

Dimensions (W×H×D) 270×118×159 mm

Weight 1.8 kg

SURROUND SPEAKER

Type 1 way, 1 speaker

Speaker
- **Full range:** 8 cm cone type

Impedance 4Ω

Input power 50 W (Music), 25 W (DIN)

Output sound pressure level 84 dB/W (1.0 m)

Frequency range 120 Hz–20 kHz (−16 dB)

■ **General**

Dimensions (W×H×D) 168×118×151 mm

Weight 1.0 kg

Notes:

1. Specifications are subject to change without notice.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

MASH is a trademark of NTT.

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